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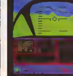
Vol 4 No 42

THIS WEEK'S NEWS

- PANDORA'S PROGRESS
- ACORN: GOOD TIMES, BAD TIMES

SPECIAL ADVENTURE ISSUE

- WAY OUT HINTS & TIPS



Strike Force Harrier *is the title of a highly realistic simulation from Mirrorsoft*

The program, launched first on the BBC, is a sophisticated replication of the flight characteristics of the vertical take-off plane

Price for the game is £9 95

Beyond answers Telecom's call

BRITISH TELECOM has increased its involvement with entertainment software by buying Beyond Software, previously a division of the publishing group EMAP for, apparently, a six figure sum

Beyond which produced chart topping titles including *Lords of Midnight*, *Shadowfire*, and *Spy vs Spy*, will now become a division of New Information Services, BT's electronic publishing arm. EMAP will not retain any share of Beyond

BT will not, however, be merging Beyond with its own software company Firebird. The two will be run entirely separately.

"Beyond will be a sister company to Firebird The two will maintain their own names and although there will be some common management functions, we won't be changing the Beyond image," said Dr Ederyn Williams, general manager of New Information Services

The deal will not affect Beyond's proposed range of titles this autumn Its agreement with US Company First Star for *Superman* and other titles has been transferred to

continued on page 5 ▶

DOMARK is set to publish a game based on the successful Friday the Thirteenth *horror movie series next month*

The programming is being carried out by ASK, a team previously acclaimed for its educational programs

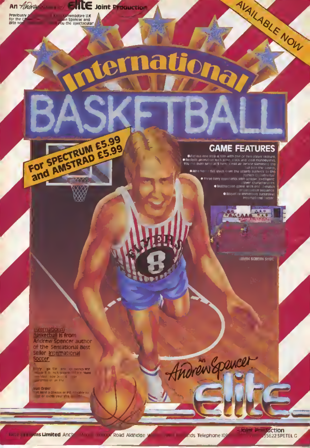
"It'll be something of a computer nasty, but we're not going to overstep the mark," said Domark's Dominic Wheatley The object is to stay alive and save as many other characters as possible

At £8 95 Friday the Thirteenth *will be available for the Spectrum, Commodore 64 and Amstrad machines*

MICRO MAGIC

Find out if you have won an Amstrad 6128 this week or at least some special *Popular Computing Weekly* cassette labels Enter your personal Micro Magic number into our special computer program on page 40

INSIDE ❭ FOLLOWING MOLES WITH WORMS - LEVEL 9 ON PAGE 14 ❭



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CONTENTS

Vol 4 No 42

4 NEWS
Boost for loss-making Acorn

11 SOFTWARE REVIEWS
Adventures, adventures . even more adventures

14 ADVENTURE SPECIAL
Go West – Take Train – Interview Level 9 . Martin Croft follows the prompts

17 ADVENTURE SPECIAL
Popular presents the Adventurer's Accomplice – the largest selection of adventure tips ever assembled

22 STAR GAME
Arcade adventure action on the QL

26 SPECTRUM
Create your own epics with this adventure generator

30 AMSTRAD
Face the mystery of Space Station Zebra

33 PROGRAMMING
For those graphic adventures, a screen compression and expansion algorithm

38 ADVENTURE SPECIAL
Tony Bridge expands and expounds

6 Letters
6 Micro Waves
24 BBC and Electron
36 Arcade Avenue
40 Micro Magic
43 Peek & Poke
49 Adventure Helpline
49 Diary
51 Top Ten Charts
52 New Releases
52 This Week
54 Puzzle, Ziggurat, Hackers

EDITORIAL

About now the adverts, special offers bundling deals and other marketing devices will begin. Now is the time that people start to think about Christmas presents and when the bulk of micro computer sales occur Now is the time the potential micro purchaser must be persuaded to buy one machine rather than another

Just after Christmas we and other magazines will get quite a lot of phone calls from people who have bought (or been bought) a micro that they have discovered, has little software support in general and more specifically has no software to rival that which they use on other people's machines

Several major chain stores the kind of places where most of the Christmas selling takes place, are already stocking machines which they know lack and will lack almost any software support whatsoever in the new year

True enough, the machines in question are cheap, and obviously that attracts people to them but a cheap machine with no software is, for most people, merely a waste of money

It may be that some people imagine that because all they really want from their machine is to learn to program, it really doesn't matter how much software it has the purists who are interested in 'educating' themselves and their children rather than playing games These people are almost always mistaken, however even those who learn and become adept at Basic soon find plenty of reasons to buy commercial software

If you're likely to be buying a computer this Christmas, don't just listen to the salesman, take along a copy of the top twenty chart from this magazine – are any of the titles there available on the machine you are thinking of buying? If they aren't you should wonder why

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ABC

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How to submit articles Articles which are submitted for publication should not be more than 2000 words long The articles and any accompanying programs should be original. It is breaking the law of copyright to copy programs out of other magazines and submit them here — so please do not be tempted **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish although we will always try our best to make sure programs work.

Computer Trade Association Magazine of the Year

Commodore announces £90m loss for 1985

COMMODORE International has now announced a net loss of $114m (around £90m) for the fiscal year ending June 30th 1985 This compares with a $144m (£110m) profit in 1984 In the fourth quarter of 1985 alone, Commodore lost $124m (£96m) compared with a $33m (£26m) profit for the corresponding period in 1984

Irving Gould, chairman of Commodore International, said, "Earnings during the fourth quarter were negatively impected by promotional deals and lower sales "

He added that Commodore expects an upturn in fortunes before Christmas

"Commodore has recently begun shipping the 128 and Amiga computers, and we will realise the benefit from full retail distribution. We anticipate a profit for the quarter to December 1985 "

As Commodore does not apparently split its financial results between the UK and US, it is difficult to estimate the contribution made by the UK division.

"Since the time covered by the figures Commodore UK has brought in measures to improve the UK performance," said a spokesman for Commodore in this country "Also there are products like the Commodore PC, and the bundled packages which are on sale in Europe only, and doing quite well "

Acorn gains £1m from Canada but loses £22m

GOOD news for Acorn at last comes in the shape of an order for over £1,000,000 – worth of BBC micros in Canada but at the same time the company has recorded a loss of over £20m for the year ending June 30, 1985

Ontario's Ministry of Citizenship and Culture has bought 1,000 BBC systems, including disc drives, monitors and printers, to use in the province's community centres

Acorn has been pushing to get into the Canadian market for over a year and the American version of BBC has been up against stiff competition with nine other micros

Following the purchase BBC machines are now being tested in schools and universities throughout Canada

One of the things that apparently swung things Acorn's way was software. "In particular we benefited because we could offer a huge range of software, having fitted the micros with UK operating systems," said Jon Black, sales director of Acorn's Education, training and consumer division.

"Altogether we listed 500 titles which we specifically recommended written by Acorn the BBC and other software houses "

Despite two financial rescues earlier this year, Acorn has announced a loss of £22 2m for the year to June 30 Olivetti, which now owns 79 8% of Acorn, apparently estimated losses of £20m when it increased its stake in the company

These figures compare with a profit of £10 8m in 1984, on a turnover of £93 2m

This year's turnover was down 16% to £77 9m

Sinclair's portable to feature 68000?

SINCLAIR Research a portable computer, code-named Pandora, will definitely be appearing next year, the company says, but Sinclair is keeping its plans flexible about the configuration of the machine

The machine which eventually appears under the Pandora label now seems likely to be based on QL rather than Spectrum technology as originally planned

The Pandora is now apparently scheduled for an April release with a price of around £300

"Our portable computer development programme is going ahead," said Alison Maguire Sinclair's new marketing manager "However, our conception of how the machine fits in with the rest of our range can change "

Sinclair's Alison Maguire

"We are firmly committed to 68000 series technology," she continued

The apparently greatly increased sales of the QL since its price cut to £199 could well be acting as encouragement for a 68000-based Pandora.

Originally Sir Clive hoped that the portable would be launched in January or February next year

"I don't know exactly when we'll introduce it," said a Sinclair spokesman "Sir Clive didn't envisage last summer turning out the way it did It'll still be 1986, but not the beginning "

The £50m plan to build a wafer-scale integration plant is also still going ahead, despite Robb Wilmot's departure from the Sinclair board. Wilmot had been masterminding the plan to raise the £50m

"Robb Wilmot assisted in the development of a business plan for the wafer-scale integration plant but this was put on the back burner because of Sinclair's preoccupation with other things during the summer, and also because fund-raising is based on confidence," the spokesman continued.

Sherlock in new Delta 4 game

ROBIN OF Sherlock is the latest title from parodists Delta 4 Software, now being published by Silversoft

Robin of Sherlock is written by Fergus McNeill, who was largely responsible for *Bored of the Rings*. Robin sets the player as a Sherlock Holmes-style character in a Sherwood-style forest, and involves much puzzle solving The yellow brick road and Dorothy from *The Wizard of Oz*, pseudo nuns, smurfs masquerading as gnomes, cordless telephones, the Flying Squad and Professor Moriarty also put in appearances

Robin of Sherlock was written with the new Gilsoft utility *Patch* which enables graphics and text to be portrayed simultaneously It will released first for the Spectrum in November at £7 95

Silversoft will also be releasing the Amstrad version of *Bored of the Rings* next month

Swords and Sorcery due out at last

SWORDS AND SORCERY, PSS's long-awaited Dungeons and Dragons style, micro game may yet appear this Christmas

The game has now been delayed for over a year, but it now looks as though it could finally be released in November

"It was delayed largely because the initial idea for the game was too ambitious," said a spokesman for PSS

A Spectrum version is scheduled first, followed by Commodore and then Amstrad All will cost £9 95

Beyond answers Telecom's call

◀ continued from page 1

British Telecom Beyond's Monolith label has also been transferred, although some negotiations are continuing over *Nexus*.

"Nexus is a company in its own right, which licenses its titles to Beyond," said Bill Delaney, Beyond's managing director "Therefore it must be entirely satisfied by the terms of the takeover

"Here at Beyond it will be business as usual – it's simply that the bank has changed We're probably with a bigger bank now," he continued

All Beyond's staff will remain with the company, but it won't move premises until the New Year As part of New Information Services, Beyond will be under the same umbrella as MUD (which BT finances) and Program Express as well as Firebird

British Telecom, which was recently privatised is diversifying into electronic publishing largely because of saturation in the home and business telephone market. "We cannot continue to just enjoy growth in the telecommunications market, especially as we no longer have a monopoly," Ederyn Williams explained "Ventures such as Prestel and Yellow Pages have led to a necessary diversification into electronic publishing, which includes microcomputing "

One of the major aspects of Beyond which attracted BT was the contract with First Star in the States "We were keen on the First Star link," Ederyn Williams said. "We feel that the software market will have a transatlantic character Indeed Firebird has two people out in the US now launching *Elite* over there "

"We re delighted to have made this deal – Beyond has a number of valuable assets and unreleased products

◀ Beyond's MD Bill Delaney

Mastertronic goes MAD with new games series

MASTERTRONIC is to introduce a new range of games, departing from its usual policy of releasing games at £1 99 only

The Mad range of titles will cost £2 99 each, and three programs comprise the initial release in the series

Spellbound, *Hero of the Golden Talisman* and *The Last V8* are all arcade strategy games Mad is an acronym standing for Mastertronic Added Dimension

"The titles are more advanced and complex than usual,' explained Alison Beesley of Mastertronic "*Spellbound* is written by David Jones, who wrote *Finders Keepers*, and is based on a *Finders Keepers* character, the magic knight It uses a window and menu system and is fairly light-hearted in character."

The Hero of the Golden Talisman is an arcade adventure involving exploration over a number of screens while *The Last V8* has you trying to control a souped-up old 50s motor car

Spellbound is being released for the Spectrum, while the other two will be put out for the Commodore 64 They should all be in the shops by next week.

Ultimate's C64 latest

ULTIMATE PLAY The Game's latest offering will be a Commodore 64 game, *Imhotep*, due for release next week

Set in ancient Egypt, the game features the adventures of Imhotep and the tasks he is given by the Gods

Imhotep will cost £2 95

Letters

Con trick

Good for Vincent Oliver (*Letters* October 3) I think that everybody with any real interest in the future of the micro industry should support him and other 664 owners No matter how good a company Amstrad is, or how good its products are, it cannot kick sand into its customers' faces and expect to get away with it

People with good memories will recall that Sinclair did a similar thing back in 1981, when the company continued trading ZX80s at £100 literally days before it launched the ZX81 at £70 But being, perhaps the first case of its kind in the British micro industry there was not enough noise made about the scandal

Now, however, consumers, hopefully with the backing of the micro press have enough power to stop these outrageous commercial con tricks I think that companies like Acorn and Sinclair are finally learning that customers *must* be treated with respect, Amstrad is relatively new to the industry, but that is still no excuse for its refusal to even correct its mistake. So, if we want to stop this sort of thing happening again we must keep nagging Amstrad until it does the only honourable thing, and offers up-grades to disappointed 664 owners

Laurence Scotford
15 Tenterden Close
Eastbourne
East Sussex

Fear the worst

With reference to the 'Great Value' item in the letter column of September 19, I would like to express my thanks to Ivor Spital for confirming that I am not a 'sucker' However, I am still trying to work out what I should be, I have the feeling that continuing to be a sucker may be the better option Perhaps I should take comfort in the fact that I supported British industry, I think, and stopped Amstrad making a loss on an obvious, and which could have been, expensive mistake on its part

I do agree that the 664 did appear to be very good value until Amstrad went one better and provided its own competition. Prospective buyers of the 6128 may like to reflect on the possibility of a '6256' at an even lower price for Christmas!

As to the continued support for the 664 machine, only time will tell, but I fear the worst.

Finally, whilst typing this letter, the shift key on my machine has decided to die in sympathy with its brother 664 micro computers

CJTurner
Shade Oak
14 Penny Lane
Guarlford
nr Malvern
Worcs

£1m bingo?

After reading the issue of October 3, I have only one question: when are you going to introduce £1,000,000 bingo?

Robert Robertson
39 Milwood Drive
Mossend
Lanarkshire

At the same time as our readership reaches 4,000,000 and we introduce the Peating Popular Pretties on page 3.

Excellent machine

I have just read Graham Taylor's favourable review of the Ibico LTR 1 printer, and thought your readers may be interested in my experience of this excellent little machine

The LTR-1 has been available for some time at less than £100 from Typewriter Centre shops in the W Midlands area. Although it does look a little plasticy it is very solidly made, much better, I think, than the popular Brother HR5. The printer mechanism is beautifully made by ALPS well-known for their printer/plotter units as used by Commodore, Atari, Tandy, etc In fact the mechanism in the Ibico is virtually identical to that in the Atari 1027 printer (which retailed not so long ago at over £250), so mechanical spares and ink rollers may be fairly easy to obtain.

I have found that the boldest printing is obtained using a very smooth, soft paper, such as that marketed by Brother for use with their EP series of printers or for the HR5 The printing density is a little uneven (but still good) because the print head is not fully re-inked between each character

Using a less smooth paper, such as typing bond, will give a rather less dense print – it takes less ink off the print head, but the variation in density will also be less

With a little ingenuity, it should be quite possible to modify a paper roll holder (such as the ones available from Brother) and fix it to the rear of the Ibico to allow the use of 100ft rolls of A4 width paper

To print the £ symbol, the Ibico expects to receive character code 123 on the Spectrum this corresponds to the left-hand curly bracket (Extended/shift/F)

From *Tasword* on the Spectrum it is possible to underline side-headings, if these are less than half a line long Simply re-configure one of the control graphics characters to give a Carriage Return and place this control character immediately after the heading Then type in the required number of underline characters The Ibico will print the side-heading, do a carriage return without a line feed, then underline the heading

Finally, don't be put off by the slow printing speed, even 12 cps is over 100 words per minute

David Branston
25 Cole Valley Road
Hall Green
Birmingham

Micro waves

Tomorrows World was in its prime – sadly a few years past now – the finest example of an educational/scientific entertainment TV programme

It carefully walked a tightrope between woosh goes-the-rocket triviality and mind-numbing detail, the result of which was genuinely entertaining and informing half hour

The production team of *Micro Live* should maybe take a look at some of those classic recordings. The first programme of *Micro Live's* new autumn series was almost totally lacking in sparkle with little to interest either the casual viewer or the micro enthusiast

Just who are they making the programme for? The present up-market business slant will lose both the home micro audience and the interested general public faster than they imagine Business micros make boring television

Whenever I see Lesley Judd, I instinctively reach for the *Blue Peter* sticky-backed plastic 'Very useful' she chirps after a look at computer maintenance contracts. Yes, it would be if I had a system worth over two grand home micro maintenance never mentioned. More features like the speech synthesis demos and interviews with living legends like Bill Gates are needed he produced the most interesting insight of the evening when suggesting that the present generation of microcomputers, "for the price don't satisfy" A pity he wasn't allowed to continue

The people behind *Micro Live* have set themselves the most difficult of tasks – they want to reach everyone across the computing spectrum and some beyond

In doing so I fear they are pleasing no-one

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The 64k of RAM means you'll have plenty of memory to play with. And there are over 200 Amsoft games, that you can play, many exclusive to Amstrad.

But games are only half the fun on the Amstrad CPC 464. In fact using it can also be quite an education.

The kids can learn spelling and arithmetic with software like Wordhang and Happy Numbers.

Whilst adults will love the way it helps around the house with budgetting and accounts.

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More is less

Program *Blue Max 2001* **Micro** Spectrum 48K **Price** £5.95 **Supplier** Cases Computer Simulations, 14 Langton Way, London SE3 7TL

Blue Max 2001 is the sequal to *Blue Max*, quite a popular and successful title for the 64. This time you play the role of fearless Max Chatsworth IX who is directly descended from our original hero of the same name. This time around the mission is to penetrate the enemy defenses of the Time Masters who have captured Earthbase Gamma IV and are relandessly pursuing you in strange craft intent on your destruction as you fly through the lunar-like landscape.

Apart from a jolly tune and a few beeps and blurps, the sound is not worth holding your breath for but the graphics are quite impressive, consisting of bridges, craters, alien buildings and for some strange reason – cars! Bombing buildings amasses you points, along with despatching your pursuers with guns mounted, it seems, all around your strange helicopter like craft.

On beginning the game you start with a full fuel supply and 40 bombs, and they are replenished at certain locations around the planet. I quite liked the explosive effect of the bombs as they hit the ground and missing selected targets left a lifelike scar on the surface.

Just as a shoot'em up it's fine, although these days games are becoming a bit more sophisticated in plot and technique so if you're looking for a classic – don't look here. A worthy sequel? – not convinced!

Andy Moss

Myth is hit

Program *Sorcery* **Micro** Enterprise **Price** £7.95 **Supplier** Entersoft, 37 Bedford Square, London WC1 3HW.

This is it – *Rambo* for mages. A sorceror must be sent to rescue his captive compatriots from enemy territory, a hostile landscape inhabited by hooded guards, floating boars' heads, flying tadpoles and a host more. It will be tough going – will you accept the challange?

I say that you will. And when you've run out of power, or time, or drowned in the water ... I think you'll start all over again, because *Sorcery* is addictive in extreme. Three times I've pulled the plug to write this review – twice I've reloaded immediately. And I'm a hardened reviewer.

Game play is brilliantly well balanced, never impossible yet highly frustrating. It's fiendish to map the screens and it's testing to remember quite which object can do what where, ranging from frying baddies to unlocking doors. If only all arcade adventures were like this.

The game is also beautiful to look at, with colours so vivid they border on the psychedelic, and the spot sound effects and opening music are excellent. But most important is the humour.

From the trapped wizards waving their arms to the bubbles and floating peaked hat as you sink beneath the waves after missing elevation over water, the game has oodles of character.

This is possibly the Enterprise's finest yet; it starts to show just what a good machine it makes one more optimistic about future programs, maybe some originals even, written specifically for the machine – meanwhile this is a superb conversion.

John Minson

Learn chess

Program *White Knight* **Micro** BBC B **Price** £9.95 **Supplier** BBC Soft, 35 Marylebone High St, London W1

Like chess? Learning chess? Then you'll love White Knight Mk 12!

White Knight has been among the top micro chess programs for some time. Mark 12, for the BBC micro, is even better than its illustrious predecessors. For a start it plays darned good chess. The games can be fairly fast because while you figure out your own move the program makes an educated guess at what you will do (actually it only assumes you think two moves ahead and so it is not very flattering!) It is therefore planning its own reply before you have even moved. This can mean a pretty rapid game.

But playing is only part of the delight of this fine program. It will also help you learn the game. It can check any move for legality so you can try things out away from public view. The program can be forced to play itself – fun to watch if you slip in a few calculated moves of your own during the game and leave it to get out of the mess! You can even set up chess problems and let the program work out solutions.

The program allows you choices of colour for displaying the board pieces, choice of playing white or black pieces, moving by cursor keys or standard algebraic notation and a range of playing options. If you set it up to play its very best game you'll have a long evening ahead of you and a tough time beating it. For regular play I've seen nothing remotely like it.

Dave Watherson

What rabbit?

Program *Magic* **Micro** Spectrum 48K **Price** £8.95 **Supplier** Macmillan Software, 4 Little Essex Street, London WC2R 3LF

Abracadabra! Nothing. Shazam! Less. *Load*. That's it, because now the conjuror's mystic machinations have joined forces with the micro in a package containing cassette and booklet.

I put on magic shows for the family as a kid – how they suffered as I predicted cards and vanished coins. A lot of those tricks are in the bone, but they can make respectable parlour magic if well done. 90% of conjuring is patter – just as 90% of computing is jargon!

I never had the computer as a prop, a high-tech familiar, though. The program contains a number of tricks, predicting numbers or chosen cards – hardly surprising considering the computer's number crunching ability. One trick is bugged and won't work at all. Others are merely logic puzzles or optical illusions.

I'd be wary of magic involving a micro – after all, to many people the speed of a processor is pretty magical itself. But junior Paul Daniels' could do worse than intersperse a few of these tricks among more traditional fare. And it's nice to see the Spectrum used for something other than alien-zapping, even if a bit more originality could have been applied.

John Minson

Adventure Reviews

Hello John

Program *Marsport* **Micro** Spectrum **Price** £9.95 **Supplier** Gargoyle Games, 74 King Street, Dudley, West Midlands DY2 8QB

With a determined tread Commander John Marsh stepped through the automatic door into the corridor of Marsport. "Sometimes," he thought, "one man can succeed where an army fails." Succeed? The safety of the Terrans depended on his success. And his safety depended on finding a weapon somewhere within the hive of corridors before the insectoid Sept caught up with him. The mission had started.

I have a sneaking suspicion that somewhere, lost through the mists of time, lies a direct line from Commander Marsh to Cuchulainn, hero of Gargoyle's previous pair of Celtic adventures. Both are brave, beautifully animated and stomp about in a fashion that makes Rambo look like Nureyev.

Still there's nothing wrong with that. Anybody who failed to indulge themselves in the age of Irish folk heroes because they thought they didn't like past fantasy (bigots!) can throw themselves into an equally well realised future. It's a future full of problems to solve, mapping which you mustn't neglect or the use of four 'camera directions' will soon confuse you, and most importantly there's zapping.

The Sept are wonderfully horrible and despite the ultra-wide screen view, have the unpleasant habit of appearing with minimal warning just as you round a corner, compensating for the ease of targetting them. It's enough to make you jumpy but John Marsh's steps remain resolute.

As you're drawn deeper into the labyrinth you'll discover a variety of useful, sometimes invaluable, objects such as gun passes, charge units and factor units which allow you to manufacture new objects from component pieces. There are storage lockers and sealed doors to impede progress. Why did I ever volunteer for this mission?

I suppose it was because I have an aversion to being colonised by overgrown ants led by a gross monstrosity with a deadly flicking tail. I suppose it's because I believe in freedom, decency and truth. It could be because this is such a great game. And it's definitely because I've got John Marsh on my side – God bless his intergalactic Doc Martens!

John Minson

Old soul

Program *Souls of Darkon* **Micro** Amstrad **Price** £7.95 **Supplier** Tasket, 13 High Street, Bridlington YO16 4PR.

They say that magic was once as well respected as nuclear physics is today. But what happens when the old and new combine – a high technology society dabbles in powers that belong to the past? On the planet Megron it led to the unleashing of a terrible evil, the power of Darkon!

Into such a scenario you step, a bionic warrior with your robotic companion who will occasionally warn you of impending danger. At first the landscape is soft and gentle, an almost primitive deserted world, but littering it are the artefacts of an advanced civilisation.

Though hardly original, this basic premise of *Souls of Darkon* is sound enough and sets up memories of several SF novels and films. It's most stylishly presented too. At the top of the screen a text description, below a hi-res graphics window, to its right a log of your activities with inputs below.

With its original typeface and somewhat stylised neo colour illustrations it all looks very modern – a trifle Conran really. However, there will always be the debate over text vs words. At one location it is raining so hard that I sheltered under a tree (ie, an open invitation to *Climb Tree*) but had the downpour stopped by the next location or was it just not mentioned?

There were one or two other discrepancies that I encountered which stopped the world being real. Despite the trendy presentation, possibly because of it, I found it all a bit neutral and uninvolving. Still, you may think differently and it seems to have many of puzzles and reasonable variety. Perhaps it was all that rain dampened the fire of my enthusiasm.

John Minson

Gosh girls!

Program *The Secret of St Bride's* **Micro** Spectrum **Price** £6.95 **Supplier** St Bride's School, Burtonport, Co Donegal, Ireland

Here's something rather ripping. I woke this morning with the strangest feeling – just like being the new girl at school. Then I remembered – I am the new girl at school!

"St Bride's is set in *the* most beautiful Irish town and it's like I've stepped back in time, to an age when school was all blackboards, mortar boards, the three R's – and adventures! It's a really spiffing feeling.

"Still, there's something queer about it all and I intend to find out what. I think I'll explore the place properly, look around the rooms, examine things, maybe even indulge in a little disguise (because you know what a good mimic I am). After all, when I scouted around last night I could swear we were locked in, the first thing's going to be that old oak door.

"I know that Ireland's the land of fairy folk but I've not met one dwarf yet, thank goodness. *St Bride's* is so fresh and original it's shaken me out of that boredom I fell into during the hols. And maybe it's the air but it all seems so vivid!

"I've been knocked over sideways by absolutely oodles of strange happenings, odd messages and other bamboozling events.

"How nice to know that I don't have to be a mighty male warrior because girls just want to have adventures too. And now I'm going off on one of my own and it's got oodles of charm and spunk.

"Love to all – especially Rags, the dog.

For ever yours Trixie

"PS – Apparently there are some *Unexpurgated Caves* I'll be able to find soon, which are rather like some old mainframe caverns I once knew... only *very silly*! I've seen a bit of them and they look *fun*!

"PPS – Uncle Bobby's got a terrible grump on at the moment, he says that St Bride's is taking pot shots at *Colossal Caves* which is terribly bad apparently.

"He says that adventures should be taken seriously and that *St Brides* isn't a new adventure at all. I just think he's a sour puss though."

John Minson

Into space

Program *Astro-Clone* **Micro** Spectrum **Price** £7.95 **Supplier** Hewson Consultants Limited, 56b Milton Trading Estate, Milton, Abingdon, Oxon OX14 4RX

Trouble with clones is once you've seen one you've seen em all! Still that's not true of Steve Turner games because his sequal to *Dragontorc* has done far more than blast Maroc the mage into space.

What he has done is revive those Seiddab warriors, nasties of no earlier Hewson's triology and provided a tripartite game in which the earthlings strike back and set out to crush the alien menace in the wilds of space You don't get multiple lives – you just get lots of clones Lots of clones as you can afford to lose a few And you will!

The immediately recognisable part is the Ground Combat Phase, where you roam the rooms of one or other of eight planetoid bases trying to neutralise their deadly power Magic is replaced by a laser gun, which is operated via a roving gunsight

To get there you have to clear the airspace of Seiddab ships in the time honoured shoot 'em up style, with some beautifully scrolling starscapes

You also have to command your forces round the strategic map to keep the enemy at bay So three very distinct skills are called for.

Much as I've admired Steve Turner's previous games this one doesn't seem so immediately pleasing Maybe it's because it takes longer to get to grips with the greater challenge, but I also found that often screens were cluttered in both space and especially ground shoot 'em ups, with too little room to move around

There's also greater complexity of movement, with one set of icon driven instructions for moving around, others for arm movement, which takes some getting used to All in all it's a very busy game Persist and I'm sure it has many rewards, even if they're not quite so immediately as in previous games

John Minson

Sunny Spain

Program *Terrormolinos* **Micro** Spectrum **Price** £7.95 **Supplier** Melbourne House, Castle Yard House, Castle Yard, Richmond TW10 6TF

Dear All,

Remember how you enjoyed struggling up the social ladder to the heights of *Hampstead*? Well, here we are in its sequel and it's more a ride in a runaway lift to the bargain basement of the Costa Narmanalng.

Quite why we booked this I have no idea I think it was because the hubby had dreams of all those topless lovelies he ogles every week on the TV holiday programmes Of course he said it was because it was good value – but it's not that cheap!

Still, they did say they'd let us have a camera though they don't really let you have anything here – it's a constant struggle to succeed You know the hubby's no David Bailey He's struggling to get ten good shots but all he does is snap himself falling off ladders I think we'll be lucky to survive the fortnight

Love Beryl

John Minson

Trio

Program *Knight Games I* **Micro** Spectrum 48K **Price** £3.50 **Supplier** Black Knight Computers Ltd, PO Box 132, Chislehurst Kent BR7 6LJ

Knight Games I isn't a recreation for medieval nobles, nor even a chess program, but a compilation from Black Night Computers

Elevator and *Spectrabug* are both short and simple arcade types In the former you race against time to defuse bombs in a sort of manic multi-story car park with lifts, the other pits your skills against the clock in collecting flashing blocks

Tomb of Syrinx is longer, a multi-screen maze to zip around and nasties to zap while collecting musical notes and pieces of a guitar With tiny figures and minimalist graphics, these won't warm the cockles of many hearts, let along set the earth on fire Still, at only £3.50 they're just about competent and may assume uncritical computing newcomers or ultra-Puritans who can't stand all this five star sophistication

John Minson

Odd Manner

Program *Madcap Manor* **Micro** Spectrum 48K **Price** £5.50 **Supplier** Gilsoft, 30 Hawthorn Road, Barry, South Glamorgan

This adventure takes you back to the year 1933, you play the role of the famous Belgian, Inspector Le-Gles. After a hard week at the office, Lord Algernon Stingy has invited you down for a long weekend at his country estate While you are there, some dasterdly villain has stolen Lady Ditchley's priceless ruby ring Naturally, you are asked to find it

Once again Gilsoft, according to the blurb on the back cover, have put an illustrated adventure and an expanded text only adventure on one cassette However, the copy I played only contained the text adventure

From what I saw of the initial screen, the graphics looked quite good, however the text did not live up to my expectations, advertised as crammed with atmosphere and humour, I thought at first I was playing the wrong game where I asked myself, was the atmosphere, certainly not in the brief text descriptions I was disappointed with this game, especially after playing, Gilsoft's recent release, *The Hollow*. I only wish the standard in *Madcap Manor* had been the same

Roger Garrett

From myths to Moles

Martin Croft *(ageless) visits dead famous Level (9)*

If there were an Adventurer's Hall of Fame, you can be certain that the Austin family would be in there along with *Popular's* own Tony Bridge and Infocom, the American software house responsible for *Zork* and a whole host of other titles

The Austin's family firm, Level 9, is widely considered to be Infocom's British equivalent, producing high quality, challenging adventures that have a cult following While Level 9's packaging is much simpler than Infocom's, the price is also far lower – under £10 as opposed to nearly £40

Another similarity between the two companies is that both have moved into bookware, with games based on the works of best-selling English authors. Infocom has Douglas Adams' *The Hitch-Hiker's Guide to the Galaxy*, while in this country Mosaic has just published *The Secret Diary of Adrian Mole*, which Level 9 wrote around Sue Townsend's adolescent, angst-ridden creation

So, suitably armed with my new Adrian Mole notebook, I made the trek down to the Austins' new location, in a picture-postcard village just outside Weston-Super-Mare

The ruralist Level 9 team

"Commercially, we're very happy with Mole," says Pete Austin, dynamic force behind the company – he and his brothers, Mike and Nick, work on programming and creating the games, while sister Margaret handles the distribution, PR and mail order side of the business

"We're very happy with it as a design as well," continues Pete "It's a very large adventure – a four part game on most micros, with each of the four loads being three months in Adrian's life. It's a 12 part game on the BBC because of memory restrictions "

The Austins are particularly pleased with the Commodore version of Mole, because, as Peter explains, "We've achieved a split screen on the Commodore without any flicker – a programming first, we think "

Mike, the trouble-shooter when it comes to tough programming problems, explains how a little lateral thinking solved this one "We've used sprites to make a black bar over the flickering bit of the screen, so you can't see the join.

"In Mole, we have two tasks running at the same time – one is playing the game, the other is controlling the screen. There's a third task on the Spectrum, Amstrad and MSX, controlling a 100 character buffer This means you can play the game in picture mode without taking hours "

"I've done an awful lot of research on Sue Townsend," Pete says "I had to find out everything I could about her because I had to copy her writing style "

The Mole game looks certain to become one of the top selling games this Christmas – especially since Commodore UK has signed an exclusive distribution deal with Mosaic.

Commodore is using the game as part of its Christmas Compendium promotional package – obviously they have faith in Level 9's pulling power!

Part of the reason Level 9 games are so well known is that the company is always striving for perfection.

"We have a new text compressor," Mike enthuses, "which gives us near enough 50% compression – but additionally it eliminates the need for a key word table, which effectively reduces the finished code to 40% of the original."

A key word table is a list of the words the adventure understands – Mike claims that with the new compressor, they can handle 800 to a 1000 words

"It's totally impossible to run our stuff on a Commodore type machine without compression," states Pete "Infocom put their games on disc so they don't have to worry about compression – but disc games require access to minis or mainframes and Infocom are supposed to have spent over $1,000,000 on DEC mainframes "

At the moment, Level 9's development work is done on Torch micros but Pete says, "We may change to 68000 based machines at some point, possibly the QL, which will become an entry level 68000 machine once the ST and the Amiga are on the market "

Mike begs to differ "We'll probably go for the 520ST, because it has a nice keyboard, it's cheap, and it will have a large installed user base in the US "

"The game we will be producing next year will all be in four separate loads, because we are going Infocom hunting," Pete claims "When we have brought out games that are demonstrably better than Infocom's, we will start selling them to the States We know that next year's games are going to have more text, because they hardly fit onto a 5" disc "

Level 9 is also branching out into a different area – Pete is working on a scenario for a multi-user, play by modem adventure game, for an as yet un-named company Instead of running on a micro, and so having to fit into a very limited amount of memory, the database and interpreter will be on a mainframe which players can contact using their own micros and a modem

The game will be set in Arthurian England, and will contain some 10,000 locations, with space for up to 1 000 players who will start off as what Pete calls "lowly beings".

Geographically, the fantasy England will correspond closely to the area around Level 9's new location, Glastonbury is not too far away, nor is Cadbury, rumoured to be the site of Camelot.

The game will also feature a realistic calendar, with one real month equalling a year in game time, according to Pete "For example, there will be a Druid's Grove where you have to pick mistletoe on Midsummer's Day which will happen once a month If you are not logged on at the right time, then tough – the Druid's Grove is closed until next year! "

At the same time as Pete is working on that project, he will be designing a massive game for Level 9

"A large part of both projects will be working out how to handle artificial intelligence for the non player characters and monsters "

The next adventure to be released as a Level 9 game will be *The Worm in Paradise*, the fourth in the popular Silicon Dream series, which is scheduled for October 23

Following that, the sequel to *Red Moon*, which Pete calls *The Price of Magic* and Mike insists should be *Red Moon Two* is due before Christmas

In 1986, Level 9 will return to Middle Earth games – Pete is tired of science fiction. The first game for next year, he says, "will be a *Hobbit* basher, a humourous adventure so big it will make *The Hobbit* look small!"





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The Adventurer's Accomplice

Welcome to the *Popular Computing Weekly* bumper collection of adventure tips. We believe it's the most ever assembled in one magazine. The adventures are deliberately not in alphabetical order; if you really want a clue you'll have to hunt for it!

Red Moon
Need the coins? – *Wave the horseshoe*
Blinded by flashing lights? – *Drop the black ball.*
Cloaked statue upsetting you? – *Try wearing the cloak.*

Bored of the Rings
Stuck at willow tree? – *Shout for help*
Problem with a Basilisk? – *Wear the sunglasses*
Want to open the box? – *Use the magic scissors*

The Helm
Psyak a menace? – *Shine torch*
Can't find the tiny key? – *Sieve flour*

Subsunk
Tap a problem? – *Plunge basin*

Adventure Quest
Balrog in your way? – *Smite bridge with sword.*

Quann-Tulla
The crane kills you? – *Carry lead ball.*
High voltage – *Shocking! – Wear cloak*

Kentilla
Statue stops you progressing? – *Insert rod.*
Stone door a worry? – *Open bottle*

Castle Blackstar
Wraiths deadly? – *Try saying 'friend' to a mirror*
Need to fly? – *Use the broomstick* and *say 'Abracadabra.'*

Zork-1
Cyclops blocking your way? – *Feed him.*
Not found the Scarab? – *Dig harder!*

Snowball
Slipping on the ramp? – *Use the cat*

Gremlins
Stripe eluding you? – *Post flashlight.*
Pipes a problem? – *Joint the pipes.*

Pen and the Dark
Need some objects from the stores? – *Type 'Nuts'. Type 'Searchlight' etc. then use the code, which is G2556*

Four Minutes to Midnight
To drive bus – *Find Sue*
To save Dave – *Recruit Dave then out.*
To take Sue through tunnel – *Knock her out and carry her*

In Search Of Angels
Need Notebook – *Search Miller's pockets*
Can't find Miller – *Try the Thames*

Ice Station Zero
Guard a problem – *Push crates*
To get rid of bird – *Play recorder*
To escape natives – *In at fossilised tree*

Greedy Dwarf
Killed in the dark – *Find tinderbox and lamp.*
Spider kills you – *Use Elvin sword.*
To return from muddy maze – *Say 'KAZAD'*

Rampstead
Looking for a credit card – *Sit on bench*
Cabinet a problem – *Open desk in furniture department.*

Planetfall
Need a key – *Curved bar over crack*
Need the lower elevator card – *Try Robot*

Hitchhikers Guide
Don't know what to do with fluff – *Find the flowerpot*
Flying brick kills you – *Lie down*

Castle Blackstar
Boat sinking – *Bail boat*
Oil runs dry – *Go East from island*

Swiss Family Robinson
Stuck at first location – *Go below*
Stuck below – *Go topside*

Transylvania
Need the key from goblin – *Feed frog with flies.*
Want to read a message – *Use acid from witches hut.*

Witches Cauldron
Looking for red ribbon – *Try the padded cell.*
Need a skeleton key – *Use skeleton*
Need a wand – *Find the pencil.*

Mordens Quest
To cross quicksand – *Drop blanket*
Underwater you must – *At basin go N N.N SE UP DOWN N.E then Fill aqualung*

Bored Of The Rings
To get rope – *Say Hog*

Castle
To cross chasm – *Fly chasm then flap arms*
Animal a problem – *Bat it.*
Insect runs away – *Use jar.*
To go past wall – *Go hole – with torch.*

Fantasia Diamond
Brown door closed – *Knock*
Secret Door – *Ask Boris to pull lever.*

To open tapdoor – *Hit it*
Great door closed – *Talk to sentinel*

Golden Apple
Smell the flowers – *You'll sneeze but*
To get lamp – *Pull lever*
Sleeping a problem – *Cover mouth with hankie*

Hulk
To get rid of bees – *Wave fan.*
To find gems – *Dig under all domes*

Inferno
Wind blows you back – *Crawl South.*
To find stone – *Dig in third circle*

McKenzie
To get out of cell – *Do an inventory*
Laser gun won't work – *Power pack*

Urban Upstart
To get past fan – *Give lager*
Stuck in jail – *Wait.*
To enter Town Hall – *Carry red tape*

Spiderman
To get past Hydraman – *Freeze him*
Need the Bio-Gem – *Cast web from hall*
Mystified over Mysterio – *Feel around*

Twin Kingdom Valley
Trapped in Dungeon – *Use the diamond*
To find secret passages – *Have a drink at Watersmeet*
Strength failing – *Have a swim.*

Colossal Adventure
To get bird – *Need cage*
To kill dragon – *Fight Dragon*
Wits End – *"Drop Cassette' – then keep going South*

Adventure Quest
Wolves – *Get off the ground*
To climb tree – *Must have something that no one wants (nothing)*
Desert – *Carry water and when worm gets close – wait*

Lords of Time
To get keys – *Pander to narcissistic vanity to improve your attraction*
To get diamond – *Be cruel to be kind, in a willowy way*
To change time-zones in clock – *Turn cog 1 (etc)*

Snowball
Nightingales – *Keep a closed door between you and them.*
To reach Trapdoor – *Stand on a coffin*
To get out of mortuary area – *Climb up (or down) from inside lift*

The Adventurer's Accomplice

Return to Eden
To avoid explosion – *Dig at molehill then Go down and sleep in cave*
To pass Leviathan – *Need fungus when brick coloured bird appears – Drop sweetpea get egg plant egg enter house get fungus*

Erik the Viking
To launch ship – *Blow horn to summon help*
To mend leak – *Need hammer, nails and planks (smash tables)*
Maelstrom – *Throw plug*

Red Moon
To get crown – *Search outside locations*
To drain lake – *Turn handle*
Rat – *Don't go near it*
To open tower door – *Say 'Humak'*

Emerald Isle
To get out of parachute – *Release parachute*
To enter palace – *Need ermine robe*
To make canoe – *Need manual, axe and log*
Darkness – *Do not go down the mine without a light.*

Golden Baton
To find sword – *Exam leaves.*
To find rope – *need sword Chop briars.*
To find ring – *at oak tree Throw rope Climb rope Get ring*
To find key – *Wear ring Rub ring*

Time Machine
To enter house – *need glove (worn) Smash window*
To find key – *Exam painting.*
To find crowbar – *need key Open drawer Exam drawer.*

Arrow of Death (Part 1)
To find rope – *Exam courtyard.*
To reveal secret passage – *At kings chamber keep turning coat of arms*
To find coins – *Exam bed Cut pillow (need sword) Exam purse*
To get armour to top of acres (ledge) – *Tie rope (to hook) Nook armour Get rope*

Arrow of Death (Part 2)
To find flint – *Dig at southernmost featureless plain (no shovel needed this time).*
To reach narrow ledge – *need weird shrub at edge of chasm jump*
To get down from bridge – *need helmet (worn) and shrub at middle of bridge, hold rope, cut rope.*

Escape from Pulsar 7
To find light rod – *Move couch.*
To find key – *Exam Couch.*
To find circuit board – *at crewmans quarters (south) Close door Go bunk Move pillow*
Dust! – *on bunk by air vent Go vent after watch shows even number.*

Feasibility Experiment
Lions – *need leather shield to stay alive and need scimitar to kill lions*
To get brazier – *need gauntlet (worn)*
To kill gladiator – *need short sword*
To get down from lip of chasm – *Tie rope (to tree).*

Wizard of Akryz
To secure spectacles – *Fit chain.*
To find chain – *get painting*
To find sword – *Exam stair*
To progress to next part of game – *Go chest (linen)*

Perseus and Andromeda
To find discus – *Give water to beggar*
To find helmet – *At cave Exam statue, Throw discus (at statue)*
To find sandals & shield – *Need discus, Pray at temple and altar*
To fly – *At an pedestal need sandals (worn) Wait.*

Ten Little Indians
To stop train – *Wait.*
To get down from old wharf – *Stamp foot then swim.*
To get into garden – *At gate tower Tie rope, Climb rope*

Waxwork
To find aqualung – *Answer question at Cousteau exhibit then search hall of mirrors*
To find gun & bullets – *Exam jacket* To find key – *Exam seats (at leisure lounge)*

Circus
To find starting handle – *at field need shovel Dig*
To find flashlight – *Open boot.*
To make safety net – *Exam rope Get net then Erect net.*

Mountains of Ket
To earn more money – *Buy axe Chop Log Sell logs (to cartographer) then Sell axe*
To progress East from village – *Need horse*
To make friends with dog – *Feed dog*

Temple of Vran
To return through sacred ground – *Kill wart when it throws acid the first time.*
To move elephant – *Elephant follows you when you have peanuts.*
To cross quicksand – *need bow, cane and vine*

Final Mission
To leave first cell – *Stand chair Smash window Up*
To leave second cell – *Drop ring under hole in roof.*
To kill slime – *At cubby hole Wait (6 times!) then Drop soap.*

Spoof
To reach lighthouse – *Answer phone Follow Dave after saying Yes*
To get down after taking golden fleece – *Down rope*
To get grail – *In Inn Talk*
When changed into frog – *go straight to witch's hut to find cure*

Robyn Rode (Runesoft)
To get key – *at Great North Road (Nobleman present) – Rob man*
To get bow and arrows – *In well Exam niche*
Village Square – *this is a trap the villagers are King's soldiers.*
Small Hamlet – *Give gold*

The Journey
To make friends with elf – *Give knife.*
To make friends with warrior – *Kill some 'hostiles'*
To make friends with the wizard – *Give him the wand*

Volcanic Dungeon
To extinguish flames - *Need dragon's tear*
To take Medusa's head – *Need magic sack*
To cross collapsed bridges – *Need magic carpet.*

Woods of Winter
To get Light at start of Game – *Tie rope to bucket at edge of pit, lower bucket.*
To wear slippers – *Eat mushrooms*
To open Box – *Drop box from top of tree*

Tir Na Nog
To banish (temporarily) Sidhe – *need 2 weapons carried. Lunge*
To open X-door – *Need bones*
To pass wights – *Need jewel of same colour as cave*
To finish game – *Drop the 4 parts at altar then drop Calum's hammer*

Dun Darach
To get money (fast) – *in Ludum save (to tape) frequently*
To get Scrolls from thieves – *Give philtre to all three*
To stop thieves robbing you – *Carry a licence*

Castle Blackstar
To enter castle – *At drawbridge Fire arrow*
To raise portcullis – *Turn wheel in equipment room*
To lower chandelier – *Turn wheel in store room*
To scare away eagles – *Play violin (need bow)*

Pharaoh's Tomb
To enter cave – *Push rock then Yes*
To pass through magic panel – *Rub ring (need ring (worn))*
To pass through secret passage – *Need*

The Adventurer's Accomplice

Cloak (worn)

Magic Mountain
To open door (by Bamboo) – *Pull bamboo*
To get your lucky sign – *Dwarf Tell fortune*
To catch lizard – *Need soft shoes*

Knight's Quest
To make friends with dwarf – *Kill elves (need sword)*
To make friends with dragon – *Feed dragon or give food*
To pass giant – *Need dragon with you*
To get on to ferry – *must not have dragon with you*

Colditz
To cross floorboards – *Remove floorboards first*
To get key – *Open drawer*
To find tunnel – *Move bunk.*

Greedy Gulch
To find long poles – *In barber's shop lift board (need light)*
To get map – *In assay office get Zeek*
To find water – *Use pump (three times)*

The Hobbit
To get out goblin's dungeon – *Thorin or Gandalf must carry you.*
To answer Gollum – *Don't kill as soon as you met him!*
To pass through magic door – *Need ring (worn) wait until Elves open door.*

Hampstead
To find UB 40 – *In lounge exam room.*
To find key – *In kitchen exam room*
To ride bike – *Need bicycle clips Catch train from Platform 1*

The Village Underworld
To climb pylon – *Need rubber suit (worn)*
In freezer – *Need fur coat (worn)*
At bottom of hole – *The numbers on the sign are the directions of safe exits as on Spectrum cursor keys eg 8 = East.*
To buy battery – *Need coin at shop "Buy battery".*

Tower of Despair
To find dagger – *Pray at altar*
To escape 'flying beasties' – *Need horse (ridden) keep going East*
To escape forest – *At statue replace crystal.*

Cuddles
To escape play pen – *Drop bowl*
To escape nanny – *Throw brooch.*
To pass soldier – *Give doll*

Four Minutes To Midnight
To start game (safely) *(i) Go West Press Off (ii) go in and Recruit Dave then Out*
To refuel van – *Press On go East Fill van.*
To climb cable (from lift) – *must be alone need gloves (worn)*

Quantulla
To breathe easily – *Need airmask* To pass through docking tube – *Need badge (worn) (at cockpit press blue)*
To enter wiring circuits safely – *Need shock cape (worn)*
To get cred – *Drop glue first.*

Ice Station Zero
Wolves – *need (loaded) gun – Fire gun.*
To jump onto ice floe – *Only two objects carried*
To climb glacier – *Need ice pick*
To pass Yeti – *Need match & primus Light primus Throw primus at outside cave*

In Search of Angels
To find notebook – *At river search body.*
To get plane reservation – *Give notebook (to Omega)*
In Brazil, in car – *When attacked at Long Winding Road – '7' – '5' – '3' the at Outside City – '3'*

Faerie
To pass bull – *Do not have red sweater*
To find knife – *Exam rucksack.*
To cross bridge – *Say Good morning*
To go in coral pool – *Need boots (worn)*

Secret Mission (Scott Adams)
To get visitor's pass – *Sit in chair Press red Press white Get up Get* pass
To break window in visitor's room – *Need tape recorder*
To deactivate camera scanning window – *Need saboteur's pass and corpse*

Adventureland
To get key–*At cypress tree climb tree*
To get out of maze – *Need Persian ring*
To pass bear – *Scream*

Sorceror Of Claymorgue Castle
To enter castle – *In moat Hold breath Swim down (twice) East*
To open West wall in plain room – *Pull west*
To get up and down stairs – *Walk up Walk down.*
To lower chandelier – *Cast Unravel (then get out until it has worked!)*

Gremlins
To re-enter bedroom – *Throw knife.*
To stop bulldozer – *Weld controls*
To find tape – *In hardware dept. exam counter*

Sobsunk
To get key – *Need stainer (worn) on mattress Jump.*
To stop flood – *Need sucker & broom Insert sucker at basin Plunge basin*
To open hatch – *Pour acid first need battery*

Changeling
To get key – *Need green bottle & wine at the kitchen throw bottle Throw wine Get key*
To find staff – *Need Arthame at clearing Draw circle.*
To find Ring of stones – *At field carpetted with yellow flowers exam field*
To kill snakes – *Exam pit Light fire (need axe & flint) burn bone*

Time Quest
To find tinder-box – *At rocky slope feel grass*
To find diamond ring – *In cabin slide table Feel crack*
To find crown – *At Inner Cave need shovel dig*
To progress to next part of game – *At On a plateau say Thequill*

Crystal Quest
Before alarm goes off – *Go to main deck Press blue twice*
To find Spacesuit – *In cabin Exam bed Get key Unlock wardrobe*
To use transporter – *Need spacesuit (worn) at transporter room Set coordinates Beam down.*
To beam back up to spaceship – *Beam up (no communicator needed)*

Espionage Island
To leave plane – *Need parachute (worn) Pull lever then Pull cord then Drop parachute.*
To find beads – *In plane wreckage Feel corner Pull string*
To kill guard – *Throw knife*

Planet of Death
To cut vine – *Use flint*
To cross ravine – *Use floorboard*
To leave prison – *Kick bars Up*
To get mirror – *Get man Drop man Use laser Get mirror*

Ship of Doom
To make sonic screwdriver – *Insert battery into rod*
To open glass case – *Point sonic.*
To melt ice – *Press red (button) at console*

Inca Curse
To pass fire – *Need magic blanket smother fire*
To get up from sand dungeon – *Use rope*
To go down thro' porthole – *Need ring and blue stone then to go West need red stone*
Do not get "knifes" – *(Score increments 100 when taking Knifes but decrements 400 when dropped)*

Eye of Bain
To get free in hut – *Lift pole*
To cross ravine – *Need whipping post Jump or Vault*
To get honey – *Need net (worn).*

The Adventurer's Accomplice

To pass beast – *Need Ruby "Fire"*

Ground zero
To get ladder – *In garage Get ladder*
To stop house being looted – *Close door when you leave*
To pass queue – *Drop money*
To get bread – *Give radio*

Quest Adventure (Hewson)
To swim river – *Need ring (worn)*
To find long key – *Kill mindflayer (in mountains)*
To open door at castle Oops – *Unlock door with long key open south.*
To drop bomb, cushion and grail safely – *Cushion must be present in location.*

Velnor's Lair
To pass Spider – *Need torch & tinderbox at entrance. Light torch Burn web*
To pacify crocodiles – *Feed croc (any dead monster)*
To find telescope – *Exam rags*
To pacify sharks – *Use trident.*

Kentilla
To recover sword when stolen or dropped and lost – *Say Kentilla*
To get rope – *give chief sword Caveat Say Kentilla to recover sword*
To cross river – *Throw rope Swing across*
To find damp moss – *Exam river (drop moss at scorched plain to dry it)*

Lord of the Rings
To enter Mororia Gate (end of Part 1) – *Drop pepper.*
To get coin – *at Troll's machine insert battery Get coin.*
To get out of maze – *Must have map*
To pass gays – *Drop poster*
To get rope (Part 3) – *Say hog*

Quest for the Holy Grail
To enter Camelot – *Need baseball glove (after unlocking door)*
To stop wide oak door closing – *Need wedge (carried)*
To pass Eugene – *Need Jester's hat (worn).*
To pass rabbit – *Need phrasebook, armaments book and paper and grenade Read book before you reach rabbit then at cave entrance Throw grenade*

Sandman
To find brass key – *At bottom of stairs lift mat.*
To kill vampire – *Need hammer & stake*
To get gun – *Shoot target*

Pen and the Dark
To leave space ship – *Read letter Exam screen (until ship lands) Go all.*
To get ski suit – *Exchange voucher.*
To get ID card and dossier – *need thermometer & stone in pen exam thermometer Throw stone then return to Courtney's office.*
To enter crawler – *Go crawler*

Mindbender
To leave cell – *Open trap Press button Leave*
To move around after power cut – *Open manhole before powercut.*
Lift to West of foyer – *This is a trap! Do not enter this lift.*

Mordon's Quest
To find Mordon – *Climb drainpipe then return to hall.*
To cross quicksand – *Drop blanket.*
To pass through waterfall – *At altar sacrifice frog need frog & dagger*
To use transporter – *Beam (object)*
To survive more than 6 moves under water (with Aqualung) — *At basin go N N N SE UP SE then go Down NE then Fill Aqualung*

Eye of Vartan
To get flute and axe – *Steal flute Steal axe.*
To get hemlock – *Pick hemlock.*
to get acorns – *Gather acorns*
To pass bear – *Need staff Strike bear Explore cave*

Smuggler's Cove
To find barrel – *at mound of earth Exam mound then Smash barrel (need hammer)*
To get lifebelt + crisps to lake – *Float crisps where steam disappears into hole.*
To pass east of altar – *Move candle.*

Robin of Sherwood
To leave cell – *Stand Pris when guard appears Grab ankle Choke guard Search guard Get sword Slide bolt Open grate Go out.*
To find Bow and Quiver – *Enter waterfall*

Forest at World's End
To cross chasm – *Drop log*
to get into boat – *Climb into boat*
to cross river – *Row boat then climb out of boat*
To get down precipice – *Blow horn.*

Jewels of Babylon
To reach Beach – *climb down ladder row north*
Crab – *At rock pool return to Canyon (crab follow you) at canyon shout.*
Lion – *in jungle give fish to lion.*
Cannibals – at *cannibals village give watch*

Message from Andromeda
To open panel – *In mirrored room Point rod at plate*
To get down from blue room – *need sphere Place sphere on dish.*
To clear rocks – at East end of cavern - *Drop explosives go to West end of cavern Press button.*

Heroes of Karn
To kill swamp lizard – *need tinderbox light gas*
To pass firegates – *Must have drunk white potion*
To find ruby – *Need box in snake room open box*

Warlord
To get into pool – *Jump into pool to leave pool climb out*
to get meat – *Need iron give iron to trader*
To pass guard – *need salt give salt to guard*

Funhouse
To pass gate – *Climb gate*
To leave pit – *Exam water*
To enter ghost train – *Drop ticket*

Adventure 200
To get thro' narrow opening – *Must not have Axe*
To pass troll – *Throw coin*
To stop Farmer killing you – *Water plant (with seawater) after you have been up plant.*

Valkyrie 17
To make rope – *Tie sheets*
To leave hotel – *Tie rope in Room 21.*
To learn how to ski – *Read book.*
To get money – *Pawn necklace*

Marie Celeste
To open grille *Need screwdriver unscrew grille*
To get down from catwalk – *need rope & cord tie rope (to cord)*
To open safe – *Need electric device*
To get out of cell – *Lean out Insert card*

Traveller
To enter doors – *Open door Yes*
To find Power pack – *At white door (Exits N-SE) Open door get pack.*
To open doors in Main Control Room – *Pull lever*
To load gun – *Insert pack*

Alter Earth
To find key – *Move stone (stone changes into a key!*
To find Aqualung – *Need spade Dig sand.*
To make hanglider – *At edge of sheer cliff (need aluminium tubing & canvas triangle) Assemble hanglider*

Danger Mouse
To find rope – *In forest need shovel.*
To Chop log – *At woodpile need axe.*
To find ring – *At stepping stone need bottle*
To pass cat – *Need red herring*

Many thanks to Roger Garrett and all at the Adventureline club for their work in compiling this list.

Adventure

For our adventure special issue – a full size adventure for the QL by Philip Sproston

Adventure is a graphic adventure where you must find all the pieces of an ancient treasure chest. The program includes user defined characters, pixel movements and a text window, with full instructions on-screen. It is easy to play, but not so easy to beat!

The pieces are hidden in an old underground building consisting of ten levels. These pieces must be placed in a special order to work out and reveal the secret passage on Level One, so that you can get out of the building. Within the building there are various things to help you, but there are others not so nice. How far can you walk is determined by your ability. If you reach 0%, then you are dead – and have failed in your quest.

The remainder of the listing and program notes will be published next week. Meanwhile, if your fingers don't feel up to it, copies of the game can be obtained by sending a formatted microdrive plus £3.50 to Philip Sproston at the following address; Quantum Soft, Marlees, Borrowby, Thirsk, N Yorkshire YO7



```
100 REMark ADVENT
110 MODE 8:PAPER 0:CLS:PAPER #1,0:INK 0:CLS#0
115 OPEN #4,SCR:WINDOW #4,512,255,0,0:PAPER #4,0:
    CLS#4:MODE 8:INK
#0 #0,144,20,309,56:PAPER #0,7:WINDOW #0,448,39,32,
    216
120 AT 2,0:PRINT "WELCOME TO ADVENT":AT 4,12:PRINT
    "PLEASE WAIT":AT
9,4:PRINT "WHILE CHARACTERS ARE DEFINED"
190 GO TO 2000
200 DEFine PROCedure UDG
210 FONT=163722
220 OLDBASE=PEEK_L(FONT)
230 NEWBASE=RESPR(875)
240 FOR C=0 TO 875 STEP 4
250 POKE_L NEWBASE+C,PEEK_L(OLDBASE+C)
260 END FOR C
270 END DEFine USR
300 DEFine PROCedure NEWSET
310 POKE_L FONT,NEWBASE
320 END DEFine NEWSET
350 DEFine PROCedure OLDSET
360 POKE_L FONT,OLDBASE
370 END DEFine OLDSET
400 DEFine PROCedure POKEIN
405 RESTORE 600
410 READ A
420 IF A=990 THEN
430 END DEFine
440 END IF
445 CURSOR 100,100:PRINT A;
450 CHARBASE=NEWBASE+10+(A-32)*9
460 FOR C=1 TO 9
470 READ B
480 POKE CHARBASE+C,B
490 END FOR C
500 GO TO 410
600 DATA 97,124,68,18,68,124,68,68,68,124
605 DATA 98,4,16,40,76,116,68,68,100,24
610 DATA 99,56,68,68,56,16,16,16,28,28
615 DATA 100,16,40,68,124,84,84,68,68,124
620 DATA 101,16,16,56,40,124,68,68,68,124
625 DATA 102,124,16,68,68,124,40,56,16,16
630 DATA 103,40,72,4,116,84,68,56,0,0
635 DATA 104,36,68,40,68,68,68,68,68,56
640 DATA 105,120,80,104,80,100,80,104,120,0
645 DATA 106,0,100,24,24,56,104,104,8,8
650 DATA 107,68,100,124,124,124,124,56,56,16
655 DATA 108,56,56,16,80,124,20,16,40,100
660 DATA 109,124,68,124,16,124,84,16,40,100
665 DATA 110,56,56,16,20,124,84,16,80,100
670 DATA 111,4,8,8,16,16,32,32,64,64
675 DATA 112,124,0,120,68,120,80,72,0,0
680 DATA 113,124,0,80,68,68,80,56,0,0
685 DATA 114,64,32,32,16,16,8,8,4,0
690 DATA 115,128,64,80,84,92,84,80,64,124
695 DATA 116,124,0,124,16,16,16,124,0,128
700 DATA 117,124,0,124,64,112,64,124,0,124
705 DATA 118,128,4,116,68,116,20,116,4,128
706 DATA 65,56,68,124,68,68,68,68,0,0
707 DATA 66,124,68,68,120,68,68,124,0,0
708 DATA 67,124,68,64,64,64,68,124,0,0
709 DATA 68,120,68,68,68,68,68,124,0,0
710 DATA 69,124,68,64,112,64,68,124,0,0
711 DATA 70,124,64,64,112,64,64,64,0,0
712 DATA 71,124,68,64,68,68,68,124,0,0
714 DATA 72,68,68,124,68,68,68,68,0,0
716 DATA 73,124,16,16,16,16,16,124,0,0
718 DATA 74,4,4,4,4,4,68,68,0,0
720 DATA 75,64,64,120,80,72,68,68,0,0
722 DATA 76,64,64,64,64,64,64,124,0,0
724 DATA 77,68,108,84,84,68,68,68,0,0
726 DATA 78,68,68,100,84,76,68,68,0,0
728 DATA 79,124,68,68,68,68,68,124,0,0
730 DATA 80,124,68,124,64,64,64,64,0,0
732 DATA 81,124,68,68,68,84,72,116,0,0
734 DATA 82,124,68,68,124,72,72,68,0,0
736 DATA 83,124,68,64,124,4,68,124,0,0
738 DATA 84,124,16,16,16,16,16,16,0,0
740 DATA 85,68,68,68,68,68,68,124,0,0
742 DATA 86,68,68,68,68,68,108,16,0,0
744 DATA 87,68,68,68,68,68,84,108,0,0
746 DATA 88,68,68,56,16,108,68,68,0,0
748 DATA 89,68,68,68,56,16,16,16,0,0
750 DATA 90,124,4,8,16,32,64,124,0,0
751 REMark NUMS
752 DATA 48,124,68,76,84,100,68,124,0,0
754 DATA 49,16,48,112,16,16,16,124,0,0
756 DATA 50,56,68,4,28,32,64,124,0,0
758 DATA 51,68,68,4,28,4,68,68,0,0
760 DATA 52,64,68,68,72,124,8,8,0,0
762 DATA 53,124,64,124,4,68,68,68,0,0
764 DATA 54,124,68,64,124,68,68,124,0,0
768 DATA 55,124,68,4,8,16,16,16,0,0
770 DATA 56,124,68,68,56,68,68,124,0,0
772 DATA 57,124,68,124,4,4,68,124,0,0
999 DATA 990
1000 STOP
2000 INK 3:CSIZE 2,1:USR:POKEIN:NEWSET
2010 RANDOMISE:CLS:CSIZE 0,0:INK 7
2015 INK 5:AT 7,6:PRINT "PRESS "I" FOR INSTRUCTIONS"
    :AT 10,5:PRINT
"PRESS "A" TO START ADVENTURE":INK 7
2025 AT 0,0:PRINT "lnlnlnlnlnlnlnln
    ln l":FOR C=2 TO
    17 STEP 4
2030 AT C,0:PRINT "l":AT C,36:PRINT "n":AT C+2,0:
    PRINT "n":AT C+2,36
    :PRINT "l":NEXT C:AT 18,0:PRINT "nlnlnlnln
    lnlnlnl n"
2035 KEY$=INKEY$
2040 IF KEY$="I" OR KEY$="i" THEN
2042 INSTRUCT:GO TO 2010
2045 END IF
2050 IF KEY$="A" OR KEY$="a" THEN
2052 GO TO 2100
2053 END IF
2055 AT 0,0:PRINT "nlnlnlnlnlnlnlnl
    nl n":FOR C=2 TO
    17 STEP 4
2060 AT C,0:PRINT "n":AT C,36:PRINT "l":AT C+2,0:
    PRINT "l":AT C+2,36:PRINT "n":NEXT C:AT 18,0:PRINT
    "lnlnlnlnlnlnlnln
    l":GO TO 2015
2090 REMark GAME
2100 CLS:AT 2,15:INK 4:PRINT "ADVENT":AT 3,15:PRINT
    "######":MESSAG
E "WELCOME TO ADVENT":FOR C=1 TO 30
2105 BEEP 1000,50-C,5,2,15,8,4:END FOR C:MESSAGE
    "HI THERE I'M YOUR INFO WINDOW":FOR C=1 TO 30
2110 BEEP 1000,C:100:END FOR C:MESSAGE "I AM HERE
    TO GIVE YOU INFO
    DURING THE GAME":FOR C=10 TO 50
2120 BEEP 1500,-C*10:END FOR C:MESSAGE "EXCUSE ME
    AND WHILE I SET UP
    THE GAME":AT 2,15:PRINT "
    ":AT 3,15:PRINT "      ":CSIZE 3,1:C
URSOR 70,70:INK 2:PRINT "THINKING":CSIZE 0,0:INK 7
2150 DIM A$(20,20):DIM I$(8):DIM O$(8):DIM
    :DIM J(8):DIM U(8):DIM
    I(8)
2160 DIM H$(2,7):H$(2)="NOTHING":H$(2)=H$(1):DIM
    K$(5,25):DIM M(5):D
    IM M(5):DIM K(5):DIM F(3):DIM G(3):DIM H(3):DIM
    E(3):DIM T(3):DIM Z(
3):DIM Q(5):DIM R(5):DIM S(5)
2170 FOR C=1 TO 8
2180 I$(C)=" ":END FOR C:K$(1)="YOU FIND
    A PIECE OF SPELLS"
    :K$(2)="A HERO PICK' TICK" BOOM :K$(3)=" OH' A
    JAR BUTTY SUPPLY":K
    $(4)="EEEEKKKK" AN ORRIBLE MONSTER":K$(5)=" OH' A
    DEAD LOOT PROGRAM
    ER"
2190 FOR C=1 TO 3
2200 RAN 18:J(C)=B:RAN 10:K(C)=B:RAN 10:F(C)=B:RAN
    10:X(C)=B:RAN 10:
B(C)=B:END FOR C
2210 FOR C=4 TO 5
2220 RAN 10:J(C)=B:RAN 10:K(C)=B:RAN 10:Q(C)=B:END
    FOR C
2230 FOR C=6 TO 8
2240 RAN 10:J(C)=B:END FOR C
2250 FOR C=1 TO 10
2260 LEVEL C
2270 FOR Y=1 TO 8
2280 IF J(Y)<>C THEN GO TO 2320
2290 RAN 20:D=B:RAN 20:E=B
2300 IF A$(E,D)<>" " THEN GO TO 2290
2310 U(Y)=D:I(Y)=E
2320 IF Y>5 THEN GO TO 2600
2330 IF K(Y)<>C THEN GO TO 2390
2340 RAN 20:D=B:RAN 20:E=B:IF A$(E,D)<>" "
    THEN GO TO 2340
2350 M(Y)=E:N(Y)=D:FOR W=1 TO Y
2360 IF K(W)=J(W) AND N(W)=U(W) AND M(W)=I(W)
    THEN GO TO 2340
2370 END FOR W
2380 IF Y>3 THEN GO TO 2390
2390 IF F(Y)<>C THEN GO TO 2440
2400 RAN 20:D=B:RAN 20:E=B:IF A$(E,D)<>" "
    THEN GO TO 2400
2410 G(Y)=D:H(Y)=E:FOR W=1 TO Y
2420 IF F(Y)=J(W) AND G(W)=U(W) AND H(Y)=I(W)
    THEN GO TO 2400
2430 END FOR W
2450 IF X(Y)<>C THEN GO TO 2510
2460 RAN 20:D=B:RAN 20:E=B:IF A$(E,D)<>"
    " THEN GO TO 2460
2470 Y(Y)=D:Z(Y)=E:FOR W=1 TO Y
2480 IF X(Y)=J(W) AND Y(Y)=U(W) AND Z(Y)=I(W)
    THEN GO TO 2460
2490 END FOR W
2500 IF Y>5 THEN GO TO 2600
2510 IF Q(Y)<>C THEN GO TO 2600
2520 RAN 20:D=B:RAN 20:E=B:IF A$(E,D)<>" "
    THEN GO TO 2520
2530 R(Y)=D:S(Y)=E:FOR W=1 TO Y
2540 IF Q(Y)=J(W) AND R(Y)=U(W) AND S(Y)=I(W)
    THEN GO TO 2520
2550 END FOR W
2600 END FOR Y:END FOR C:Z(1)=K(1):U(1)=N(1):I
    (1)=M(1):CLS:MESSAGE "
GO I'M READY NOW":GO TO 5000
2700 DEFine PROCedure RAN (ABC)
2710 B=RND(1 TO ABC)
2730 END DEFine
2750 DEFine PROCedure LEVEL(LV)
2760 LOCal C:RESTORE 10000+(1000*(LV-1))
2770 FOR C=1 TO 20
2780 READ A$(C):END FOR C:END DEFine
2790 DEFine PROCedure UPSCREEN
2795 LOCal C:FOR C=1 TO 3
2800 IF K(C)=L THEN A$(Z(C),Y(C))="b"
2820 IF F(C)=L THEN A$(H(C),G(C))="c"
2825 END FOR C:FOR C=1 TO 5
2830 IF K(C)=L THEN A$(M(C),N(C))="d"
2840 END FOR C:FOR C=2 TO 8
2850 IF J(C)=L THEN A$(I(C),U(C))="j"
2860 END FOR C:FOR C=1 TO 5
2870 IF Q(C)=L THEN M$="Y":GO TO 2900
2880 END FOR C
2890 END DEFine
2900 DEFine PROCedure SCREEN
2910 AT 0,0:PAPER 2:INK 7:PRINT
    "aaaaaaaaaaaaaaaaaaaa":FOR C=2 TO 19
2920 PAPER 2:PRINT "a";:PAPER 0
2925 FOR V=2 TO 19
2930 I$=A$(C,V)
2940 IF I$=" " THEN PRINT " ";:GO TO 3300
2970 IF I$="a" THEN PAPER 2:PRINT "a";:PAPER 0:GO
    TO 3300
3000 IF I$="g" THEN INK 5:PRINT "g";:GO TO 3300
3030 IF I$="e" THEN INK 4:PRINT "e";:GO TO 3300
3060 IF I$="f" THEN INK 2:PRINT "f";:GO TO 3300
3090 IF I$="b" THEN INK 4:PRINT "b";:GO TO 3300
3120 IF I$="j" THEN INK 5:PRINT "j";:GO TO 3300
3150 IF I$="c" THEN INK 6:PRINT "c";:GO TO 3300
3180 IF I$="d" THEN INK 6:PRINT "d";:GO TO 3300
3210 IF I$="h" THEN PRINT "h";:GO TO 3300
3240 IF I$="i" THEN INK 6:PAPER 3:FLASH 1:PRINT
    "i";:FLASH 0:PAPER 0
:GO TO 3300
3270 IF I$="k" THEN PRINT "k";
3300 INK 7:END FOR V:PAPER 2:PRINT "a":PAPER 0:END
    FOR C:PAPER 2:INK
7:PRINT "aaaaaaaaaaaaaaaaaaaa":PAPER 0
3310 AT 0,25:PRINT "LEVEL: ";L;:AT 2,23:PRINT
    "TIME:":AT 4,
    24:PRINT "YOU HAVE:":AT 5,24:PRINT I$
    (1):INK 2:PRINT H$(1):INK 7
```

Opening credits

Create opening and closing titles for your latest video epic on the BBC computer – with the help from ***Andrew Heptonstall***

With the reduction in price of video recorders and cameras, people increasingly produce their own video films Here are two programs that will enable you to add opening and closing captions at the start and end of the video film, if you own a BBC computer

To wire the computes up with the video recorder, you should connect the *R/F Out* on the BBC to the *R/F In* on the VCR (video cassette recorder) and the *R/F Out* on the VCR to the aerial socket of a television. (See Diagram 1)

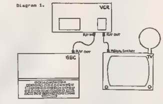
You must then tune the TV into the VCR using its test signal and then the VCR into the computer When this is done, you will be able to see the BBC's output on the TV screen

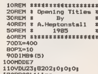
Run the "Opening Titles" program and press play/record on the VCR When the screen is clear, press stop on the VCR and record your film in the normal way using your video camera Then connect the computer up again (as in Diagram 1) and load and run the "Closing Titles" program, and record the output as before The results of your efforts can be checked by rewinding and playing the video cassette

By using the same wiring methods, you can record anything – even animation if you write the appropriate software

Program Notes

Obviously all the entries in the programs can be changed to allow you to enter the name of the video film and the names of the people that did the jobs. Up to three names for each job can be entered in the "Closing Titles" program, and should be placed between the last three inverted commas in the lines between 300 and 280 The first set of inverted commas contains the job title





```
 10REM ********************
 20REM * Opening Titles *
 30REM *       By         *
 40REM * A.Heptonstall  *
 50REM *      1985        *
 60REM ********************
 70D%=400
 80P%=10
 90DIMB$(5)
100MODE7
110VDU23;8202;0;0;0;
120PROCtitles
130END
140DEFPROCpause
150TIME=0
160REPEAT UNTIL TIME>D%
170ENDPROC
180DEFPROCtitles
190PRINTTAB(7,10);CHR$141;CHR$130;
"John Smith Productions"
200PRINTTAB(7,11);CHR$141;CHR$130;
"John Smith Productions"
210PRINTTAB(15,13);CHR$141;CHR$130;
"Present"
220PRINTTAB(15,14);CHR$141;
CHR$130;"Present"
230PRINT'''''''
240PROCpause
250PROCscroll(10)
260PRINTCHR$141;CHR$129;"
The life cycle of a Beetle"
270TIME=0:REPEATUNTILTIME>P%
280PRINTCHR$141;CHR$129;"
The life cycle of a Beetle"
290PROCscroll(11)
300PROCpause
310PROCscroll(13)
320PROCpause
330PROCpause
340ENDPROC
350DEFPROCscroll(X%)
360FORR%=1 TO X%
370TIME=0:REPEATUNTILTIME>P%
380PRINT
390NEXT
400ENDPROC
```

```
10REM ******************
20REM * Closing Titles *
30REM *       By       *
40REM * A. Heptonstall *
50REM *      1985      *
60REM ******************
70O%=400
80P%=10
90DIMB$(5)
100MODE7
110VDU23;8202;0;0;0;
120PROCtitles
130END
140DEFPROCpause
150TIME=0
160REPEAT UNTIL TIME>O%
170ENDPROC
180DEFPROCtitles
190PROCscroll(25)
200PROCinfo("Presented By",
"Fred Bloggs","","")
210PROCinfo("Written By",
"Will Jones","Robin Hood","")
220PROCinfo("Computer Workshop",
"Barrie Heptonstall","","")
230PROCinfo("Camera and Sound",
"Joy Stick","Lisa Apple","")
240PROCinfo("Researched by","Poly Bag",
"Algernon J. Baker Jnr","Snoopy")
250PROCinfo("Produced and Directed By",
"John Smith","","UUU")
260PRINT"
Copyright John Smith Productions"
270TIME=0:REPEATUNTILTIME>P%
280PRINTTAB(15)"MCMLXXXV"
290PROCpause
300PROCscroll(25)
310PROCpause
320ENDPROC
330DEFPROCscroll(X%)
340FORR%=1 TO X%
350TIME=0:REPEATUNTILTIME>P%
360PRINT
370NEXT
380ENDPROC
390DEFPROCinfo(A$,B$(1),B$(2),B$(3))
400A%=0
410PROCscroll(4)
420PRINTCHR$141;CHR$134;SPC(2);A$
430TIME=0:REPEATUNTILTIME>P%
440PRINTCHR$141;CHR$134;SPC(2);A$
450REPEAT
460A%=A%+1
470PROCscroll(1)
480PRINTCHR$141;CHR$131;SPC(2);B$(A%)
490TIME=0:REPEATUNTILTIME>P%
500PRINTCHR$141;CHR$131;SPC(2);B$(A%)
510UNTILB$(A%)="" OR A%=3
520PROCscroll(6)
530IFB$(3)<>"UUU" THENPROCpause
540ENDPROC
```

Fill in the blanks

*Make your own adventures with this program for the Spectrum by **Hugh T Walker***

This program sets out to give a skeleton framework on which a Basic adventure game can be written by filling in the blanks (hence the title)

When the listing has been entered and tested, the dummy locations and object data may be deleted as these are only included as an illustration of the program's operation and as a means of testing it The program may then be cleared and saved to tape, from whence it may be loaded as a utility, thus saving about two hours sheer slog when starting to create your next masterpiece

Naturally, the simple variables and arrays in the initialising routines will need to be re-defined to tailor the program to the particular needs of the new creation, with appropriate alterations to the Data lists in Lines 8000 et seq

The Command Analyzer (or Parser) should be adequate for most needs but it should be noted that as this uses an expression to control the *Go to* or *Go sub* it is not suitable for the finished game to be compiled.

The intransitive verb routines are called by *Goto* instead of the more efficient *Gosub* because most of these verbs may and in the game being restarted and the program does not *Run* to restart

The reason why the program does not *Run* to restart is so that, once the programmer is satisfied that the verb and object arrays are complete, the initialising routines and Data lines may be deleted - making sure that they have been initialised before you do this! This will gain a considerable amount of memory for game development, of course, within the limitations of those verbs and objects and subject to the program not being *Run* nor *Cleared*. This latter condition gives an indirect degree of protection.

The finished game may be further protected by *Poke 23659,0* since I have avoided using the Spectrum Rom routines for *input* and *Cls* – it is necessary to, temporarily, remove this protection in the *'Save'* routine (Lines 4200 et seq.) but the additional protection of *Poking* both *Repper* and *Repdel* to 1 will leave the hacker with a keyboard that, if not impossible, will be very difficult to use There are, of course, more subtle means of protection available to machine-code initiates but this is Basic!

Program Notes

Line No	
10 to 90	Reserved for title *Rems* and *Def Fns*
100 to 900	Reserved for subroutines called during game
1000 to 1090	General Status Table (eg Have you won? or Are you dead?)
1100 to 1990	Get next command analyse it and act on it if valid.
2000 to 2048	Move to new location – if valid exit from old location
2050 to 3990	Reserved for transitive verb subroutines – blocks of 50 lines each.
5000 to 5990	Spare (eg use for Combat routine and/or amplify verb routines eg, EXAM)
6000 to 6090	Location descriptions and location-dependent status tables -blocks of 10 lines per location
6100 to 6990	Spare (eg more locations (?))
7000 to 7990	End Game messages and Play Again? routine (+ potential

```
   1 REM ***********************
   2 REM ***ADVENTURE BLANK**
   3 REM ***********************
   4 REM ********* © *********
   5 REM ***********************
   6 REM *** Hugh T Walker **
   7 REM ***********************
   8 REM ******21.9.85*******
   9 REM ***********************
  10 GO TO 8E3
  99 REM ***********************
 100 REM *** CLEAR SCREEN ***
 101 REM ***ADVENTURE BLANK**
 110 FOR F=0 TO 21
 120 PRINT AT F,0,,
 130 NEXT F
 140 PRINT AT 0,0,
 150 RETURN
 199 REM ***********************
 200 REM [illegible]
 201 REM ***********************
 210 PRINT
 211 REM *** UNFINISHED ***
 212 REM [illegible]
 220 IF LEN A$>4 THEN LET B$=A$
 IF B$="AND " OR B$="THEN" THEN
 LET A$=A$(5+(B$="THEN") TO )  LE
T AG=1  GO TO 220
 230 IF AG THEN PRINT A$  RETURN

 250 REM [illegible]
 260 PRINT "WHAT NOW?"
 270 LET A$=""
 280 LET INP=0
 290 PRINT FLASH 1,">",
 300 IF INKEY$<>"" THEN GO TO 30
0
 310 IF INKEY$="" THEN GO TO 310
 320 LET C$=INKEY$  BEEP .008,10
 330 IF CODE C$=13 OR CODE C$=12
 THEN GO TO 400
 340 IF CODE C$=7 THEN PRINT CHR
$ 8," ". GO TO 290
 350 IF CODE C$=64 THEN LET C$=T
$
 360 IF CODE C$<32 THEN GO TO 30
0
 370 PRINT CHR$ 8;C$. FLASH 1,">
"
 380 LET A$=A$+C$. LET INP=INP+1
 390 GO TO 300
 400 IF NOT INP THEN GO TO 300
 410 IF C$=CHR$ 13 THEN PRINT CH
R$ 8," "  LET T$=A$. RETURN
 440 REM *** DELETE ***
 450 LET INP=INP-1
 460 LET A$=A$( TO INP)
 470 PRINT CHR$ 8,CHR$ 8, FLASH
1,">", FLASH 0,"  ",CHR$ 8,
 480 GO TO 300
 499 REM ***********************
 500 REM **DEFAULT MESSAGES**
 501 REM ***********************
 510 PRINT "DON'T BE SILLY"
 520 LET A$=""  RETURN
 999 REM ***********************
1000 REM *** MAIN LOOP ***
1001 REM ***********************
1002 REM
1003 REM ***********************
1004 REM [illegible]
1005 REM ***********************
1010 POKE 23692,255  REM suppress
 scroll
1020 INK 0
1030 IF WN THEN GO TO 7E3
1040 IF DD THEN GO TO 7100
1099 REM ***********************
1100 REM *** NEXT COMMAND ***
1101 REM ***********************
1110 LET AG=0. GO SUB 200
1120 LET GO=0. LET ND=0
1130 LET TV=0. LET D=0
1140 DIM B$(4)
1150 LET A$=A$+"$"
1199 REM ***********************
1200 REM [illegible]
1201 REM ***********************
1210 FOR G=1 TO LEN A$-INT PI  I
F A$(G)=" " THEN LET B$=A$( TO G
)  LET A$=A$(G+1 TO )  GO TO 130
0
1220 NEXT G
1250 PRINT "I DON'T UNDERSTAND T
HAT"  LET A$=""  GO TO 123
1299 REM ***********************
1300 REM [illegible]
1301 REM ***********************
1310 IF B$="    " THEN GO TO 120
0
1320 IF B$="AND " OR B$="THEN" T
HEN GO TO 1200
1350 IF TV OR ND THEN GO TO 1000
1399 REM ***********************
1400 REM [illegible]
1401 REM ***********************
1410 FOR T=1 TO 4. IF B$=V$(T) O
R B$=Z$(T, TO 4) THEN LET GO=T
GO TO 223
1420 NEXT T
1499 REM ***********************
1500 REM [illegible]
```

	spare space)
8000 to 8080	Print title screen set up permanent colours etc
8100 to 8290	Initialise variables and *Read Data* for arrays which do not alter during game
8300 to 8390	Instructions or scenario
8400 to 8890	Reset variables and arrays which alter during game, for each new game. Either by *Loading* a saved game or by re-initialising and calling main loop (at 1000) via 'LOOK'-routine at line 4000
9000 to 9490	Data lists for arrays initialised by Lines 8100 to 8290
8800 to 8880	Data lists for arrays initialised by Lines 8500 to 8880
9900 to 9990	*Save* "adventure" to auto-run at line 9900 & Verify

In lines 4200 et seq & Lines 4250 et seq the array *X$()* is a 'dummy' array used to collect together any simple variables and short arrays which need to be saved, thus reducing the number of files which need to be saved. The dimension of *X$()* and the routines in which it is assembled and dissembled will have to be altered according to the particular needs of each individual game.

The commands to *Save* and *Load* are entered as '*SAV*' and '*LOA*', respectively, to allow the verbs Save and Load to be used in the game.

Note: The analyzer reads only the first four letters of each word – words of less than four letters have spaces added to allow them to be recognised. Naturally if the verbs Save and Load are not to be used as transitive verbs, the asterisk is unnecessary and 'SAVE' & 'LOAD' may be substituted.

More details and the final part of the listing, next week

```
1501 REM **********************
1510 FOR U=1 TO IVN: IF S$=U$(U)
 THEN GO TO 3050+50*U
1550 NEXT U
1590 REM **********************
1600 REM --TRANSITIVE VERBS--
1601 REM **********************
1610 IF TV THEN GO TO 1700
1620 FOR V=1 TO TVN: IF B$=V$(V)
 THEN LET TV=V: GO TO 1800
1650 NEXT V
1699 REM **********************
1700 REM --+ NOUN INPUT +--
1701 REM **********************
1710 IF NO THEN GO TO 1800
1720 FOR N=1 TO OB+NN: IF S$=N$(
N) THEN LET NO=N: GO TO 1800
1750 NEXT N: GO TO 1200
1799 REM **********************
1800 REM -+ IT = LAST NOUN+-
1801 REM **********************
1810 IF NO=OB+NN THEN LET NO=LN
1840 REM **********************
1850 REM --+ GET 1ST WORD+--
1851 REM **********************
1860 IF NOT NO OR NOT TV THEN GO
 TO 1200
1899 REM **********************
1900 REM + EXECUTE COMMAND+-
1901 REM **********************
1910 IF NO<OB+NN-2 THEN LET LN=N
O: GO SUB 2E3+TV*50: GO TO 1E3
1919 REM --+ GET DROP ALL +--
1920 IF TV>2 THEN GO TO 1250
1930 FOR O=1 TO OB: LET NO=O
1940 IF TV=1 AND CA>3 AND O(NO)=
LC THEN PRINT "THERE'S TOO MUCH
HERE FOR ME    STREWTH GUV, GIV
E US A BREAK!": LET A$="": FOR F
=1 TO 50: NEXT F: GO TO 1900
1950 IF TV=1 THEN IF O(NO)=LC TH
EN GO SUB 2075
1960 IF TV=2 AND NOT O(NO) THEN
GO SUB 2120
1970 NEXT O
1990 LET TV=0: GO TO 4E3
1999 REM **********************
2000 REM * EXELCUTE MOVEMENT *
2001 REM **********************
2010 IF NOT GO THEN GO TO 1250
2020 IF NOT L(LC,GO) THEN PRINT
"YOU CANNOT GO THAT WAY": LET A$
="": GO TO 1E3
2030 LET LL=LC
2035 LET LC=L(LC,GO)
2040 LET WN=(LC=8 AND NOT O(5))
2045 GO TO 4E3
2050 REM ***GET***
2055 IF NO>OB THEN GO TO 1250
2060 IF NOT O(NO) THEN PRINT "YO
U ALREADY HAVE IT": GO TO 500
2065 IF O(NO)<>LC THEN PRINT "IT
 IS NOT HERE": GO TO 500
2070 IF CA>3 THEN PRINT "YOU CAN
'T CARRY ANY MORE": GO TO 500
2075 LET CA=CA+1
2080 LET O(NO)=0
2090 IF O THEN RETURN
2095 GO TO 4E3
2100 REM ***GET***
2105 IF NO>OB THEN GO TO 500
2115 IF O(NO) THEN PRINT "YOU DO
 NOT HAVE A",O$(NO): GO TO 500
2120 LET O(NO)=LC
2130 LET CA=CA-1
2140 IF O THEN RETURN
2145 GO TO 4E3
3999 REM **********************
4000 REM **DESCRIBE LOCATION**
4001 REM **********************
4002 IF WN THEN GO TO 4040
4004 GO SUB 100: PRINT "YOU ARE
";
4008 GO SUB 6E3+LC*10
4010 PRINT '"EXITS ";
4012 LET G=1: FOR F=1 TO 4
4014 IF L(LC,F) THEN PRINT Z$(F)
;" ";: LET G=0
4016 NEXT F
4018 IF G THEN PRINT "NONE"
4020 PRINT '"YOU SEE ";
4022 LET G=1: FOR F=1 TO OB
4024 IF LC=O(F) THEN PRINT TAB 8
;"A";O$(F): LET G=0
4026 NEXT F
4028 IF G THEN PRINT "NOTHING SP
ECIAL"
4040 IF TV THEN RETURN
4045 GO TO 1E3
4050 REM **Look-synonym***
4055 GO TO 4E3
4100 REM ***Inventory***
4105 PRINT "YOU HAVE ";: LET CA=
0
4110 FOR F=1 TO OB
4120 IF NOT O(F) THEN PRINT TAB
9;"A";O$(F): LET CA=CA+1
4125 NEXT F
4130 IF NOT CA THEN PRINT TAB 9;
"NOTHING"
4140 GO TO 1E3
4150 REM ***Help***
4160 PRINT "NO! SHAN'T! DON'T WA
NT TO!"
4170 GO TO 1E3
4200 REM ***Save***
4205 PRINT '"READY CASSETTE."
4210 LET X(1)=LC: LET X(2)=CA: L
ET X(3)=LL: LET X(4)=WN: LET X(5
)=DD: LET X(6)=LN
4215 FOR F=1 TO OB: LET X(6+F)=O
(F): NEXT F
4220 PRINT "THERE ARE 2 FILES TO
 SAVE"
4225 PRINT " DATA 1": SAVE "DATA
1" DATA L(): REM EXITS
4230 PRINT " DATA 2": SAVE "DATA
2" DATA X()
4235 GO TO 4E3
4250 REM ***Load***
4255 GO SUB 100: PRINT '"THERE A
RE 2 FILES TO LOAD "
4260 LOAD "DATA1" DATA L()
4265 LOAD "DATA2" DATA X()
4270 LET LC=X(1): LET CA=X(2): L
ET LL=X(3): LET WN=X(4): LET DD=
X(5): LET LN=X(6)
4275 FOR F=1 TO OB: LET O(F)=X(6
+F): NEXT F
4280 GO TO 4E3
4300 REM *** Quit ***
4305 PRINT "REALLY WANT TO QUIT?
 (Y/N)"
4310 PAUSE 0
4315 IF INKEY$="Y" THEN STOP
4320 IF INKEY$="N" THEN PRINT "S
TOP MESSING ABOUT THEN!": BEEP .
5,-30: GO TO 1E3
4325 GO TO 4310
5999 REM **********************
6000 REM *LOCATION DESCRIPTIONS
6001 REM **********************
6010 PRINT "IN A LARGE CAVE": RE
TURN
6020 PRINT Z$(1);" OF THE CAVE."
: RETURN
6030 PRINT Z$(3);"OF THE CAVE."
: RETURN
6040 PRINT Z$(4);"OF THE CAVE.".
: RETURN
6050 PRINT Z$(2);" OF THE CAVE."
: RETURN
6060 PRINT "FALLING INTO A DEEP
PIT!"
6062 LET DD=1: RETURN
6070 PRINT "AT A LONG TUNNEL."
6072 LET L(7,1)=8 AND NOT O(5):
RETURN
6080 REM *** WIN ***
6099 RETURN
```



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In space no-one can hear you type

Explore the mystery of Space Station Zebra on the CPC464 written by ***Bob Baxter***

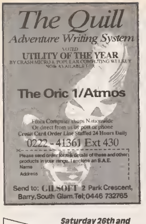
Space Station Zebra, a science research vessel orbiting the Poll galaxy, suddenly ceases all communications with Mankind. The Science Council issues your orders – to investigate and secure the station, gather information and evidence by any means at your disposal, then return with it. The alternative is to destroy Zebra.

They called on the best, so it's up to you. Remember, in the Universe, all is not what it first appears

The program notes, plus the rest of the Basic listing next week Meanwhile, if you don't want to wear your fingers out typing, I can supply tape copies for £2 85 including postage Write to me at PO Box 17, Burnham-on-Sea, Somerset.

```
1 REM ************************
10 REM * SPACE STATION ZEBRA *
30 REM
40 REM * (C) B.BAXTER 85 *
50 REM ************************
60 REM
70 MODE 1:CLS:FLAG=0:SC=0:LOCATE 1,25:PRINT"Do you require the story ? (Y/N)?
80 A$=INKEY$:IF A$="" THEN 80
90 IF A$="Y" THEN GOSUB 4000
100 REM * GET NAME & Enter command (1) *
110 CLS:LOCATE 1,24:INPUT"Your name for your basket please?       ";N$
120 FOR X=1 TO LEN(N$):IF MID$(N$,X,1)=" " THEN 140
130 NEXT:X=LEN(N$)+1
140 N1$=LEFT$(N$,X-1):N2$=LEFT$(N1$,1)
150 FOR I=2 TO LEN(N1$):A=ASC(MID$(N1$,I,1)):IF A>64 AND A<91 THEN A=A+32
160 N2$=N2$+CHR$(A):NEXT I:PRINT:PRINT"Thank you "N2$:FOR T=0 TO 350:NEXT T
170 REM * COMMAND INPUT (2) *
180 DATA GET,DROP,GO,USE,CHARGE,LIGHT,READ RUN,REPORT,BREAK,HOOK,LOAD,EAT,DRINK
190 DATA DESTROY
200 CO=15:DIM CO$(CO):FOR I=1 TO CO:READ CO$(I):NEXT I
210 REM * SUPPLY TABLE (3) *
220 DATA WATER,1,0,15
230 DATA TEA,1,0,1
240 DATA WHISKEY,0,0,0
250 DATA PANCAKE,0,1,5
260 DATA CAT,0,1,20
270 DATA MILKY BAR,0,1,7
280 DATA PEANUTS,0,1,7
290 CH=7:DIM CH$(CH),CT(CH),CH(CH),CO(CH):FOR J=1 TO CH:READ CH$(J),CT(J),CH(J),CO(J):NEXT J
300 REM * LIFE-FORM TABLE (4) *
310 DATA Wheel,Plasma Being,Absorber,Human,Womb Beast,Poltergeist,Gremlin
320 LF=7:DIM LF$(LF):FOR I=1 TO LF:READ LF$(I):NEXT I
330 REM * OBJECT TABLE (5) *
340 DATA PACK,"An energy pack ",0,33
350 DATA UNIT,"A portable charging unit ",0,6
360 DATA PEN,"A pocket light pen ",0,20
370 DATA ENGINEERING,"Engineering Log",200,39
380 DATA BUZZ,"A Buzz Word ",0,0
390 DATA DISCS,"The Computer Discs",300,40
400 DATA PIPE,"A length of heat pipe ",0,44
410 DATA BOX,"A Black Box ",0,28
420 DATA COMMUNICATOR,"A ships communicator,",0,23
430 DATA SUIT,"An E V A suit.",0,13
440 DATA TOOLS,"A set of mining tools ",0,41
450 DATA MANUAL,"A Droids manual ",0,18
460 DATA BAG,"A travel bag ",0,16
470 DATA RECORDER,"A voice recorder ",0,17
480 DATA HEAD,"A human head ",0,21
490 DATA MEDICAL,"The Medical officers Log ",200,46
500 DATA GUM,"A packet of gum ",0,36
510 DATA FOODPACK,"An empty foodpack ",0,12
520 DATA TORCH,"A welding tool ",0,48
530 DATA BOOT,"A space boot ",0,18
540 DATA HARNESS,"A space harness ",0,50
560 DATA LINE,"A safety line ",0,19
[illegible] DATA BEACON,"A space Beacon ",0,42
570 DATA VISOR,"A broken visor ",0,31
580 DATA HANDLE,"A small spare handle ",0,35
590 DATA FLASK,"An oxygen flask ",0,27
600 DATA CATAPULT,"A space catapult",0,19
610 DATA LOGBOOK,"Zebra's Logbook ",400,18
620 DATA CLAMP,"A small magnetic clamp ",0,8
630 DATA SPARES,"A few engineering spares.",0,4
640 DATA WATER,"A glass of water ",0,34
650 DATA TEA,"A cup of tea ",0,7
660 DATA WHISKEY,"A bottle of whiskey ",0,33
670 DATA PANCAKE,"A cold pancake ",0,47
680 DATA CAT,"One dead cat ",0,43
690 DATA BAR,"A Milky bar without the bid ",0,59
700 DATA PEANUTS,"Roasted peanuts ",0,40
710 DATA PACK,"A backpack unit ",0,45
720 DATA REMAINS,"Some human remains ",100,3
730 DATA RECORDS,"The Science officers records",300,6
740 DATA OBJECT,"A mysterious object ",0,32
750 DATA JACKET,"An old torn jacket ",0,32
760 OB=42:DIM OB$(OB),OD$(OB),LB(OB),SB(OB):FOR L=1 TO OB:READ OB$(L),OD$(L),SB(L),LB(L):NEXT L
770 FOR I=4 TO 20:LB(I)=INT(RND(1)*60)+1:NEXT I
780 FOR X=21 TO 42:LB(X)=INT(RND(1)*60)+1:NEXT X
790 REM * SURVIVAL CONDITION (6) *
800 ST=100:TH=100:HU=100:[illegible]
810 P=0:DARK=0:EI=1:OFF=0
820 WINDOW 1,40,1,20:CLS
830 IF EI=1 THEN ST=ST-[illegible]
840 IF ST<=0 THEN 4120
860 IF ST>0 AND ST<25 THEN PRINT:PRINT"I feel very weak ":PRINT
865 IF IN>PP THEN 4100
870 IF IN>60 AND IN<100 THEN PRINT:PRINT"This pain is bad!":PRINT
880 TH=TH-2:HU=HU-1:IF P=LIT THEN DARK=1
890 IF TH<=0 THEN 4120
900 IF TH>5 AND TH<10 THEN PRINT:PRINT"WOW!! [illegible] ":PRINT
910 IF TH>10 AND TH<20 THEN PRINT:PRINT"I feel like a beer ":PRINT
920 IF TH>25 AND TH<50 THEN PRINT:PRINT"My throat is dry ":PRINT
930 IF HU<=0 THEN 4120
940 IF HU>0 AND HU<10 THEN PRINT:PRINT"COME ON!! I'M STARVING ! ":PRINT
950 IF HU>10 AND HU<25 THEN PRINT:PRINT"When do we eat? ":PRINT
960 IF HU>25 AND HU<50 THEN PRINT:PRINT"My stomach just rumbled ":PRINT:PRINT
970 IF EN<25 AND EN>0 THEN PRINT:PRINT"The light is fading ":PRINT
980 IF EN=0 THEN PRINT:PRINT"The light's gone ":PRINT:P=OFF
990 IF P=LIT OR (RM>29 AND RM<47) THEN ROOM=0
1000 IF P=OFF AND (RM>30 AND RM<40) THEN ROOM=1
1010 IF DARK=0 THEN 1070
1020 X=INT(RND(1)*3)+1:ON X GOTO 1030,1040,1050
1030 PRINT:PRINT"There's no light here ":GOTO 2350
1040 PRINT:PRINT"It's too dark to see. ":GOTO 2350
1050 PRINT:PRINT"I need lights. ":GOTO 2350
1060 REM * ROUTE MAP (7) *
1070 ON RM GOTO 1120,1170,1210,1230,1250,1270,1290,1310,1330,1350,1370,1390,1410
1080 ON RM-13 GOTO 1430,1450,1470,1490,1510,1530,1550,1570,1590,1610,1630,1650
1090 ON RM-25 GOTO 1670,1690,1710,1730,1750,1770,1790,1810,1830,1850,1870,1890,1910
1100 ON RM-37 GOTO 1910,1930,1950,1970,1990,2010,2030,2040,2060,2080,2100
1110 ON RM-49 GOTO 2120,2140,2160,2180,2200,2220,2240,2260,2280,2300,2330
1120 PRINT"Zebra's airlock is ready but the hatchspeed manual operation to open it is too late to quit. Route:- S. or N to Sparrow "
1130 N=1:S=2:E=0:W=0:U=0:D=0: REM 1
1140 SC=0:FOR I=1 TO OB:IF LB(I)=-1 THEN SC=SC+SB(I)
1150 NEXT :IF SC=1350 THEN 4160
1160 GOTO 2350
1170 PRINT"You are at the junction of thesular ring walkway. There is a strobing light that shows the way but it flickers and dims. Route:- N.S.E.W "
1180 IF FLAG=1 THEN 1200:PRINT:PRINT"I BEHOLD ZEBRA TREMBLE!"
1190 PRINT:PRINT"ZEBRA KNOWS WE'RE HERE "
1200 FLAG=1:N=3:S=5:E=6:W=3:U=0:D=0:GOTO 2350: REM 2
1210 PRINT"A mist covers the floor here The lights are poor and there is blood on the walls.Cables and conduits hang broken from the panels. Route: S E W."
1220 N=7:S=1:E=2:W=4:U=0:D=0:GOTO 2350: REM 3
1230 PRINT"There's blood on the floor The screens are covered in slime Take care it is slippery under foot Route: S E W "
1240 N=0:S=20:W=2:E=7:U=0:D=0:GOTO 2350: REM 4
1250 PRINT"More evil here! This lobby area shows a sign of battle Blood and the seats reverse the seats There is a strange atmosphere. Route:- N S.E W "
1260 N=2:S=24:E=20:W=1:U=0:D=0:GOTO 2350: REM 5
1270 PRINT"This is an observation lounge The greatshutters are now closed again at the mainstars The oxygen are all in place and untouched by instruction The [illegible] is still covering the floor Route:- S.E."
1280 N=0:S=18:E=3:W=0:U=0:D=0:GOTO 2350: REM 6
1290 PRINT"The walkway curves to the south All the panels have been torn open There is a lot more blood on the floor. Be warn Route:- S W "
1300 N=0:S=8:E=0:W=4:U=0:D=0:GOTO 2350: REM 7
1310 PRINT"This is a lounge area unused recently There is no sign of past activity here The observation windows are open to the stars. Route:- N S.W
1320 N=7:S=9:E=0:W=27:U=0:D=0:GOTO 2350: REM 8
1330 PRINT"I am located at a refreshment area The dispensers are reading EMPTY Cartons and packets litter the floor Route:- N W "
1340 N=8:S=0:E=0:W=13:U=0:D=0:GOTO 2350: REM 9
1350 PRINT"This is a dispatch area. The containers are marked Company' and Private some are opened with their contents spilled out on the floor Flames lay everywhere Route:- N S E "
1360 N=6:S=11:E=19:W=0:U=0:D=0: GOTO 2350: REM 10
1370 PRINT"Entering the main shuttle Bay Two ferryclass shuttles sit resting in their berths with outer Hatches open ready to board A corpse lays by the hatch of one, burntbeyond recognition It's dangerous here Route:- N S E."
1380 N=10:S=12:E=22:W=0:U=0:D=0:GOTO 2350: REM 11
1390 PRINT"Viewscreens fill the walls and a sign reads Visitors Embarkation Centre The place seems cold and lonely and out of place on Zebra The register is empty! another route leads south but where is Route:- N E "
1400 N=11:S=0:E=13:W=0:U=0:D=0:GOTO 2350: REM 12
1410 PRINT"This is a junction. The route south has been sealed off. A sign over the hatch reads Under Construction - VACUUM Route:- N.E W."
1420 N=23:S=0:E=0:W=12:U=0:D=0:GOTO 2350: REM 13
1430 PRINT"This is a junction on the inner ringway Burn marks cover the entire walkway The panels, conduits and panels are melted and there are remains of dark . There has been a great battle here Route:- N.S.E.W "
1440 N=3:S=23:E=14:W=15:U=0:D=0:GOTO 2350: REM 14
1450 PRINT" CREW QUARTERS marks another junction The walkway ahead is covered in more of the slime, dripping from the cables Route: S E.W "
1460 N=0:S=22:E=14:W=18:U=0:D=0:GOTO 2350: REM 15
1470 PRINT"The floor is torn up here The sign to the officers quarters is broken and the lamps are smashed The overhead cables are hanging loose and the walkway to the right is littered with broken conduits. Route:- S.E W "
```

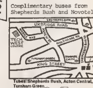
```
1480 B=0:N=0:E=17:W=0:U=0:D=0:GOTO 2350: REM 16
1490 PRINT"The walkway ends here with another dismembered against doors. There is less commotion, up to the left next to Navlight. Routes- N.S.E.W."
1500 N=20:B=0:N=16:E=0:W=0:U=0:D=0:GOTO 2350: REM 17
1510 PRINT"The walkway divides. A hatch to the west is marked, the sign reads 'VACUUM' Someone claw marks on the hatch. Something has tried to get out here!
           Routes- N.S.E."
1520 N=19:B=21:E=13:W=0:U=0:D=0:GOTO 2350: REM 18
1530 PRINT"Ringing quarters. The bunks are skewed and dirty washing litters the floor. The sleeping pods are cold.   Routes- N.S.E.W."
1540 N=3:B=18:E=5:W=1:U=0:D=0:GOTO 2350: REM 19
1550 PRINT"The badge on the door showed it was the commanders quarters, and it was empty! No furniture or signs of being occupied it was an empty shell!  Routes- N.S.W."
1560 N=4:B=17:E=0:N=0:U=0:D=0:GOTO 2350: REM 20
1570 PRINT"Sleeping quarters. It's a mess here, lockers are overturned with torn sleeping bags and clothing everywhere. There are more marks in the blood and its stuck to the walls.  Routes- N."
1580 N=18:E=0:B=0:N=0:U=3:D=0:GOTO 2350: REM 21
1590 PRINT"Crews locker/shower cubicles. Graffiti on the wall declared 'Gravity is a myth-the Earth sucks!' Pin-Up's cover every wall, some human!  Routes- N.E.W."
1600 N=15:A=0:W=11:B=25:U=0:D=0:GOTO 2350: REM 22
1610 PRINT"The Dome here was no such a shambles as everywhere else. It was usually monochrome over the clock, but was quiet now.   A staircase goes to decks one and three Routes- N.S.E.W.U.D."
1620 N=14:E=13:E=34:W=23:U=36:D=26:GOTO 2350: REM 23
1630 PRINT"The hatch has been torn out! What used to be the guard's rest room is now all a mess. The remains of an officer lays against a unit. The badge is missing. The ID showed it is the Lyzac 2nd officer  Routes- N."
1640 N=16:B=0:W=23:E=25:U=0:N=0:GOTO 2350: REM 24
1650 PRINT"This used to be the officers quarters. Now it is burnt to charcoal. Masks leftof a laser lays on the floor. Something has been more more powerful than man.    Routes- N.E.W."
1660 N=17:B=0:W=24:E=0:U=0:D=0:GOTO 2350: REM 25
1670 PRINT"Level one stars has been sealed off from the rest of this deck. All the hatches here the warning of 'Vacuum' above them. The construction crew must have slipped out here. Steam looms to an airduct in the corner and goes down. Routes- U.D."
1680 N=0:B=0:W=0:E=0:U=23:D=30:GOTO 2350: REM 26
1690 PRINT"Screen glass and instruments showed this was the Medical centre. The equipment is smashed and useless.  Routes- N.E."
1700 N=0:B=36:E=38:W=0:U=0:D=0:GOTO 2350: REM 27
1710 PRINT"The hatchways off this junction lead me closer to our goal. The hatch ahead is marked as usual, 'VACUUM'. Still at it like here. There is more of the slime.  Routes- N.S.E."
1720 N=27:B=0:E=30:W=0:U=0:D=0:GOTO 2350: REM 28
1730 PRINT"The sign read 'Computer Centre' although there were no computers working now. The reason for being here was gone. The lifeless equipment answered many questions.  Routes- N.E."
1740 N=28:B=0:E=31:W=0:U=0:D=0:GOTO 2350: REM 29
1750 PRINT"They've named this 'Turkey Crossing' misnamed foresight, burnt trees covered the floor like entrails.  Routes- S.E.W."
1760 N=0:N=0:E=32:W=28:U=0:D=0:GOTO 2350: REM 30
1770 PRINT"There's two bodies in the control room. Neither of them were officers uniforms, and both had their throats cut. Both had been dead a long time. More slime!    Routes- N.E.W."
1780 N=30:B=0:E=34:W=29:U=0:D=0:GOTO 2350: REM 31
1790 PRINT"The junction had been fatal for someone. A couple of charred remains I noted very unkempt. There were claw marks on the walls everywhere.  Routes- S.E.N."
1800 N=0:B=38:E=33:W=30:U=0:D=0:GOTO 2350: REM 32
1810 PRINT"Strange, the junction is untouched.       Routes- S.E.N."
1820 N=0:B=37:E=54:W=32:U=0:D=0:GOTO 2350: REM 33
1830 PRINT"Construction was well underway at this junction, and next to here the same sign 'Under Construction  VACUUM' in a red marker. The area was cordoned in mesh.  Routes- N.S.W."
1840 N=31:B=38:E=0:W=33:U=0:D=0:GOTO 2350: REM 34
1850 PRINT"The Star Dome used to be an observatory and an anymore, the equipment was a pile of molten metals. The optics would rotate at the stars again.  Routes- S.W."
1860 N=0:B=30:E=0:W=27:U=0:D=0:GOTO 2350: REM 35
1870 PRINT"The indicator showed Level 3 Lobby. Badly decomposed corpses lay on the floor all human.  Routes- N.S.E.W."
1880 N=33:B=31:E=37:B=0:U=0:D=23:GOTO 2350: REM 36
1890 PRINT"Nothing wrong in the Hydro Growth section. Every piece of equipment was bent. No sign of any damage apart from slime on the floor.  Routes- N.S.W."
1900 N=33:B=0:E=38:W=36:U=0:D=0:GOTO 2350: REM 37
1910 PRINT"Very little damage revealed this was the hydroponic lab. Apart from broken glass some few small plants on the floor were something to some trouble.  Routes- N.W."
1920 N=34:B=0:E=0:W=37:U=0:D=0:GOTO 2350: REM 38
1930 PRINT"The duct is big enough to take a man but the floor is slippery.  Routes- N.U."
1940 B=40:B=0:E=0:N=0:U=36:D=0:GOTO 2350: REM 39
1950 PRINT"There's two inspection hatches here, one on the left and another on the right. A trail of slime goes forward.        Routes- N.S.E.W."
1960 N=43:E=42:W=41:B=40:U=0:D=0:GOTO 2350: REM 40
1970 GOTO 4300: REM 41
1980 GOTO 4300: REM 42
1990 PRINT"There are several small vents here, some of the grills have been gnawed. There has strange mist covering the floor.      Routes- N.S."
2000 B=40:B=40:E=0:N=0:U=0:D=0:GOTO 2350: REM 43
2030 GOTO 4300: REM 45
2040 PRINT"Another junction with sealing hatches. A faint whistling fills the air. There's blood on the floor.  Routes- E.W."
2050 N=0:B=0:E=47:U=46:U=0:D=0:GOTO 2350: REM 46
2060 PRINT"The shaft goes vertical here and empties into a room. The grill has been torn off its hinges.  Routes- N.U."
2070 N=0:N=0:E=0:B=0:U=46:D=0:GOTO 2350: REM 47
2080 PRINT"This is the engineering stores level 1. Containers have been torn open spilling parts everywhere. They are difficult to climb over.  Routes- N.S."
2090 U=49:B=0:E=0:B=0:U=0:E=47:GOTO 2350: REM 48
2100 PRINT "Level 1 Engineering the sign read 'NO UNAUTHORISED PERSONNEL.' The sign was up-side down! The walkway curves here.      Routes- N.S.E."
2110 B=0:B=0:E=0:E=0:U=0:D=0:GOTO 2350: REM 49
2120 PRINT"A rest area reveals a battle took place here. Blood along with slime covers the walls and floor. There are articles of torn clothing amongst the debris but no bodies. Strange.  Routes- N.S.E."
2130 N=0:B=49:E=50:B=0:U=0:D=0:GOTO 2350: REM 50
2140 PRINT"A series of sealed hatches on the left and right reveal a junction. A hatch is open.   Routes- S.E."
2150 N=0:B=0:E=52:N=0:D=0:U=0:GOTO 2350: REM 51
2160 PRINT"This area is the food bar. An engineer sits at a table with his throat cut and his hands missing. Covered in slime, masked in fear.  Routes- S.E.W."
2170 N=0:B=51:E=53:W=51:U=0:D=0:GOTO 2350: REM 52
2180 PRINT"The walkway is lined with small corridors to the cargo against the wall here, one is on its side. Burnt remains lay beside it.  Routes- S.W."
2190 B=0:B=56:E=0:B=56:U=0:D=0:GOTO 2350: REM 53
2200 PRINT"There's several machines here, all equipment in construction going on behind them. A faint whistling fills the walkway. The cables are all intact for a change.   Routes- N.S.W."
2210 A=47:B=0:E=0:W=0:U=0:D=0:GOTO 2350: REM 54
2220 PRINT"A large explosion here has damaged most of the docking bay. It was obvious that someone had tried to get a shuttle away in a panic. The wreck was piled against the outer doors. No sign of bodies.       Routes- N.W."
2230 B=50:B=0:E=0:U=0:U=0:D=0:GOTO 2350: REM 55
2240 PRINT"A real battle took place here. The crew suffered their last defence against this unknown enemy, burnt remains is all that is left of them. About fourteen in all.   Aaas carnage!  Routes- N.S.W."
2250 N=53:B=0:E=0:W=57:U=0:D=0:GOTO 2350: REM 56
2260 PRINT"The engineering control deck is in a badway, there's little evidence left, except it working and there's blood all over the place. There is a hatchway that leads up to level 3. The power room door's open.   Routes- N.S.E.W.U."
2270 N=57:B=0:E=58:U=56:U=58:D=0:GOTO 2350: REM 57
2280 PRINT"There's no radiation warning light above the door. The catwalk surrounding the crucible is dripping in slime. The giant load is poor and EMPTY. The heart of Zebra has GONE.   Routes- E.W."
2290 N=0:B=0:E=57:W=58:U=0:D=0:GOTO 2350: REM 58
2300 PRINT"The chief engineer lays at the bottom of a secondary panel with his throat cut. The switches reveal the last aliment of a brave man. The destruct sequence had been set, but it was now aborted. A staircase leads up.  Routes- U.D."
2310 B=0:B=0:E=0:B=0:U=40:D=53:GOTO 2350: REM 59
2320 PRINT"The office was still intact. No evidence of intrusion here. It had already got what it came for.  Routes- D."
2330 N=0:B=0:E=0:W=41:U=0:D=0:GOTO 2350: REM 60
2340 REM * RESPONSE FRAME (B) *
2350 PRINT: PRINT"Observations:-";PRINT:Z=0:IF B=0 THEN PRINT"Blockages ";:GOTO 2420
2360 FOR I=1 TO 30:IF LB(I)=0 THEN NEXT I:GOTO 2400
2370 IF POS(#0)+LEN(OB$(I))<38 THEN PRINT OB$(I)",";:GOTO 2390
2380 PRINT:PRINT OB$ I) .";
2390 Z=1
2400 IF Z=0 THEN PRINT:PRINT"Not a lot!":PRINT
2410 WINDOW 1,40,12,25:PRINT
2420 X=INT(RND 1)*5:ON X GOTO 2420,2440,2450,2460,2470
2430 PRINT:PRINT"Okay  "OK",  Anna now ?":GOTO 2480
2440 PRINT:PRINT"What now ? "OK" ?":GOTO 2480
2450 PRINT:PRINT"Carry on  I want  I see ":GOTO 2480
2460 PRINT:PRINT"What now ?":GOTO 2480
2470 PRINT:PRINT"Come on  I'm in a hurry  "OK"
2480 REM * INPUT ROUTINE (9) *
2490 EVERY 2000,2 GOSUB 4070: REM * IMPATIENCE *
2500 IN$="":V$$="":N$="":PRINT:PRINT CHR$(246);
2510 A$=INKEY$:IF A$="" THEN 2510
2520 IF ASC(A$)=13 AND IN$="" THEN 2510
2530 IF ASC(A$)=127 THEN PRINT CHR$(8) CHR$(16);
2540 IF ASC(A$)=127 THEN IN$=LEFT$(IN$,LEN(IN$)-1):GOTO 2510
2550 PRINT A$;:IF ASC(A$)=13 THEN 2580
2560 IF ASC(A$)<65 AND ASC(A$)>90 AND ASC(A$)<>32 THEN 2350
2570 IN$=IN$+A$:GOTO 2510
2580 PRINT:PRINT
2590 IN$=IN$+" "
2600 FOR X=1 TO LEN(IN$):IF MID$(IN$,X,1)=" " THEN 2620
2610 NEXT:GOTO 2990
2620 VB$=LEFT$(IN$,X-1):NO$=RIGHT$(IN$,LEN(IN$)-X)
2630 FOR A=1 TO 20:IF VB$=CO$(A) THEN 2660
2640 NEXT:PRINT"I don't understand "" "OK" ";" "N$:GOTO 2490
2650 REM * REACTION SEQUENCES (10) *
2660 ON A GOTO 2690,2760,2810,2860,2910,2960,2920,2970,2660,2660,2660,900,2790
2670 ON X-13 GOTO 3790,4080
2680 REM * GET (11) *
2690 FOR X=1 TO 30:IF OB$(X)=LEFT$(OB$,LEN(OB$(X))) THEN 2720
```



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A tight squeeze

Just the thing for those graphic adventures – an all-purpose graphics compression routine by ***Adrian Warman***

A trend in software today, particularly graphic adventures, is to have high-resolution pictures to accompany text information. This article considers a way in which high-resolution images can be stored in a format other than their 'pure' bitmaps. In doing so, it will be shown how compression by factors in excess of six times can be achieved.

The algorithms are presented in a pseudo-Basic, in order to preserve machine-independence. However, notes are provided to make the set of listings easier to understand.

The Problem

Bitmap high resolution displays have the snag of requiring large amounts of Ram for their storage. For example, the BBC computer takes up to 20K for its highest resolution, and the Commodore 64 takes 8K plus extra for colour information.

The easiest method of keeping a copy of a display is to store the bitmap in its entirety. Unfortunately, if the screen contains comparatively little information, or if the image is regular or repetitive, then there could well be a large amount of redandant information being stored. For example, consider a circuit diagram on a sheet of paper. The actual amount of ink used is very small in comparison to the paper area taken. When memory is important, a smaller storage use can be very advantageous.

The Algorithms

The algorithms presented below attempt to provide an alternative method of storing bitmap information. However, there are a number of points which must be kept in mind. Firstly, although the algorithm can achieve an excellent degree of compression, there are patterns which can vastly increase the storage used in comparison to simple bitmap storage.

Secondly, although the expansion algorithm (*'xpand'*) is quite fast, the compression algorithm (*'shrink'*) can take some time. This effect is dependent on exactly how the algorithm is implemented. Running the same algorithm on the same machine but in different languages, I have timed compression for the same image as taking from six to 30 minutes. Decoding takes roughly the same time as reloading the entire bitmap, again this is language dependent. To show the worth of the algorithm, it is interesting to note that the image that gave the above timings was compressed into less than an eighth of its pure bitmap size.

The compression is achieved through a very simple process. It is assumed that the screen pixels are either 'on' or 'off'. The actual number of *adjacent* pixels on the row in the same state is recorded, rather than each individual bit.

Starting from the base corner of the bitmap display, the 'status' of the current dot is inspected. For a simple mono-colour display, it is assumed that the integer value '0' represents 'off', and '1' represents 'on'. For colour displays, the status could be (say) the colour number found at the dot position.

Once the status is established, the algorithm searches along the row, looking for adjacent dots in the same status. If the status changes, the count so far is stored in a file. If a mono-colour display is used, only the count need be stored. For multi-colour displays, it is suggested that the old colour number be stored along with the count. (For more information on this, see the program notes below.) The change of status is noted, and the count restarted. This continues until the end of the display is reached.

```
1000 rem shrink algorithm
1010 :
1020 :
1030 width=320
1040 height=200
1050 :
1060 :
1070 rem see notes.
1080 :
1090 :
1100 rem see notes.
1110 open file 1,"storage",
     sequential,write
1120 count=0
1130 state=0
1140 :
1150 :
1160 for row=0 to height-1
1170 for col=0 to width-1
1180 :
1190 :
1200 gosub 2000
1210 if found=state then
     count=count+1:goto 1270
1220 :
1230 print file 1:count
1240 count=1
1250 state=1-state
1260 :
1270 next col
1280 next row
1290 :
1300 :
1310 close file 1
1320 :
1330 stop
1970 :
1980 :
1990 rem inspect pixel
     at (row,col).
2000 found=pixel(row,col)
2010 rem row=y-value,
     col=x-value.
2020 rem convert if
     necessary.
2030 return
```

When the display pattern consists of lines or dots or blocks, this technique generally results in a significant size reduction compared to pure bitmap storage. However, for *some* images (for example, Figure 1) continual changing of dots in close proximity will mean excessively large storage files. In general, it appears that if the numbers being stored in the file have an average value less than the number of screen display bits per byte, then the algorithm is not producing a worthwhile amount of compression. Unfortunately, there seems to be no way of predicting whether a given display is suited to compression, except by trying it.

Finally, the Basic conforms mostly to Microsoft standard in order to emphasise the fact that the algorithms are *not* machine-dependent. One exception is that variable names have been chosen that do not necessarily differ in the first two characters. It was decided that the user could better understand the flow of the algorithms by the use of meaningful variables, and besides, it was unlikely that the names would suit everybody. Any other difficulty would concern the sequential files or graphics, but these are fully explained in the notes below. As long as your computer can do high-resolution displays and manipulate simple sequential files, the algorithms will work.

Program Notes

Naturally, graphics commands vary from machine to machine, so certain assumptions have to be made regarding the plotting and inspection of points. For this reason, some lines within the algorithms contain references back to the notes for explanation of exactly what is required. As long as it is possible to plot lines in foreground and background colours (the latter possibly being interpreted as 'reset'-ing points on the line), as well as to use a function to inspect the status of individual points, there should be no difficulty.

'Shrink' Algorithm

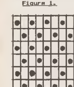
1030-1040 – *Width* and *height* are set up here, and used throughout the algorithm. If your screen has different dimensions, simply alter the numbers accordingly.

1070 – Some languages require that the hi-res screen be active at the time of performing any graphic command. If so, suitable commands should be added here.

1100-1119 – Even in Microsoft there is little standardisation regarding sequential files. This line simply opens a sequential file which can be written-to, with the file-name *'storage'* and referenced within the program by the term *'file 1'*. Replace this line by the equivalent on your system.

1120-1130 – Start values assume that no pixels have been found, and that the program is currently looking for pixels in the background colour.

Figure 1.



1190-1170 – Loops 'row' and 'col' control the inspection of each point on the hi res screen.
1200 – Call a subroutine to inspect the contents of the current pixel. 'Found' is set to '1' or '0' depending on whether the pixel is on or not.
1210 – If the pixel found is in the same state as its predecessor, increment the count, and loop round for again
1230-1250 – The current pixel is in a different state. Output the count to the sequential file (Line 1230), restart the count and set the new states being looked for. If multi-colour is being used, the current colour should be filled along with the count and the new colour found labelled as the new state.
1270-1280 – The end of the loops to inspect each pixel row by row

1310 – Close the sequential file
2000 – The function *Pixel (x, y)* is assumed to return a number that reflects the state of the pixel at (x, y). This has been placed in a subroutine since it will probably need to be altered for the specific system. The only restriction is that 'found' must be set to '0' if the pixel is in the background colour and '1' if in the foreground colour. If the display is multi-colour, then the *Pixel* function will probably return the colour number instead and this should be assigned to 'found', for use as described in the notes.

'Xpand' Algorithm

1000 – *'Width* and *height'* are declared as in the *'Shrink'* algorithm.
1070 – Some languages require the graphic screen to be active while drawing or plotting. If so, suitable commands should be added here
1100-1110 – This line simply opens a sequential file which can be read from with the filename *'storage'*, and referenced within the program by the term *'file 1'*. Replace this line by the equivalent on your system.
1150-1150 – *'Status'* is initialised and assumes that the first group of pixels will be in the background colour. *'Xnow'* and *'ynow'* are the pixel co-ordinates of the start of the current block of pixels in the current colour. *'Ynext'* is the y value of the end of the block and is required to be defined by the algorithm at this point.
1180 – EOF is a function usually present in most Basics. It simply returns True or False depending on whether the file contains no more data (EOF stands for End Of File)
1210 – This line gets the next value of *'count'* from the file. *Count* holds the length of the new block of pixels. If a multi-colour system is being used, the line should be replaced by (for example) Input File 1 Status, Count

1230—1250 – Calculate the column number of the end of the next block. It is possible that a wrap-around effect could occur if the current block 'falls-off' the end of the row. Line 1250 tests for this condition, and if found modifies the end co-ordinates of the block
1270 – If the current block lies completely on the current line, then go and draw it
1290-1360 – The next block does not lie entirely on the current row, and so it must be split into two. These lines set up the start and end co-ordinates of the block sub-sections and call the subroutine to draw the line in its correct colour (depending on the state)
1330 – Skip over the case when the block lies entirely on the current row of the screen.
1350-1360 – Draw the entire block, since it fits entirely on to the current line. The start and end co-ordinates are set up in a similar fashion to the above
1390-1410 – Make the end of the current block to be the start of the new block. Since we have reached the end of the current block, the status must be changed. For single colour displays the Line 1410 remains unchanged since state zero becomes state one, and vice versa.

However, for multi-colour screens the line can be omitted entirely, since the correct value of *status* will be read in from the converted Line 1210
1430 – Repeat this process until the file is empty
1480 – Close the sequential file
2000 – This subroutine draws a line from *(xstart, ystart)* to *(xend, yend)*, in a colour which is dependent on *'status'*. It is necessary for the user to code this subroutine suitably for the chosen system, but the main workings should be clear. First of all, the colour of the line is determined and set from *'status'* (Lines 2000-2010). Finally, the line is drawn using the co-ordinates supplied

```
1000 rem xpand algorithm
1010 :
1020 :
1030 width=320
1040 height=200
1050 :
1060 :
1070 rem see notes.
1080 :
1090 :
1100 rem see notes.
1110 open file 1,"storage",sequential,read
1120 status=0
1130 xnow=0
1140 ynow=0
1150 ynext=0
1160 :
1170 :
1180 if eof(file 1) then goto 1460
1190 :
1200 :
1210 input file 1:count
1220 :
1230 xnext=xnow+count
1240 :
1250 if xnext>=width then xnext=xnext-width:
     ynext=ynext+1
1260 :
1270 if ynext=ynow then goto 1350
1280 :
1290 xstart=xnow:ystart=ynow :xend=width-1:
     yend=ynow
1300 gosub 2000
1310 xstart=0    :ystart=ynext:xend=xnext
     :yend=ynext
1320 gosub 2000
1330 goto 1390
1340 :
1350 xstart=xnow:ystart=ynow :xend=xnext
     :yend=ynext
1360 gosub 2000
1370 :
1380 :
1390 xnow=xnext
1400 ynow=ynext
1410 status=1-status
1420 :
1430 goto 1150
1440 :
1450 :
1460 close file 1
1470 :
1480 stop
1490 :
1990 rem draw a line.
2000 if status=0 then rem set black ink.
2010 if status=1 then rem set white ink.
2020 rem see notes.
2030 move xstart,ystart
2040 draw xend,yend
2050 return
```



A knock-out

A while ago we had a plea for a cheat routine for Elite's *Airwolf*, a game that I and many others find so difficult that it is barely loadable. Steve Palmer of Denham has come to the rescue of Spectrum owners with this routine he worked out. First type this:

```
10 Border 0, Paper 0 Load
Clear 23999 Randomise Usr
23296 Save it to tape with
Save "AW" Line 10 then New
```

Then enter this:

```
10 For A = 23296 TO 23346:
Read Z Poke A,Z Next A
20 Data 6, 4, 197, 205, 86,
5 193, 16, 248, 221, 33, 0, 64,
17, 0, 27, 62, 255, 55, 205, 86, 5,
221, 33, 192, 93, 17, 53, 162, 55,
62, 255, 205, 86, 5, 62, 200, 60,
73, 175, 62, 1, 50, 100, 169, 50,
150, 169, 195, 196, 230
30 Save "AWC" Code 23296,
70
```

Run this, start recorder again and press any key. Then type *New*. Load your two new programs and play your copy of *Airwolf* from the beginning – it should load and give you an easier game. As Steve says, "Two hundred lives and the walls cut down to size." He also has a tip for the *Dark Star* high score table – when you get the high score hold *Caps Shift* and *Symbol Shift* down and press the keys 1 to Enter in order to see a message from the programmers. He also says, "Select the change fame format and press six – can anyone see anything different about this? Finally can I thank Chris Green for his map of *Airwolf* which we will send in later." I'm looking forward to it Steve.

Neil O'Sullivan and Graham Kellaway of Enfield have sent these codes in to get to the different boxers in *Frank Bruno's Boxing*. For boxers 2 and 3 enter your name as WHO. For boxers 4-9 enter name as GAK. The winning ceremony is counted as boxer number 9. 1 – just press enter, 2 – BGIIOBONS, 3 – MAMINCONS, 4 – N7CINIGNI, 5 – C1CINMEC8, 6 – A4JIOCCI8, 7 – M5DIIAAB8, 8 – I2HINO8L3, 9 – O3HII95NS. Very close behind comes a letter from Alan Brown of Duns in Warwickshire who hasn't got through as many rounds but offers these tips – "To beat the Canadian Crusher use alternate high and low punches. For Andra Puncheredov use a high punch with your left fist when he dodges to the left. For Frenchie – work up your K.O. power and keep punching when he falls down so that you knock him out as he gets up (is that in the Queensbury rules?) Can anyone beat my Canadian Crusher knock out time of 0 38 20?"

One of the stalwarts of the columns contributors, someone to whom we owe many of our very best cheat routines, is Paul Milles. Here is a selection of tips from the latest letters from Paul, and there will be lots more to come over the next few weeks. Where would we be without him?

System 15000 – some codes: L T Perry & Co, 493 5429, Infra or Vis 15, Salatel 222 2196, St. 421, Solicitors 930 7269, CCYRP 455, Big Apple Inc 01012129765898, Craig Comm 837 1098, Elwood Bro 01012129766868, EBU 1657, Boon Securities 343 1408, CD – TY4Y.

Starion – In sector 1 the first anagram is Bible and the date 1988. The second is EEC and 1957. The next is diamond and dates from 1897. The last is relativity and 1905. (Lets have a lot more solutions to this game – there are a lot of anagrams floating around in space and some of the answers are pretty obscure.)

Alien Swarm – *Poke* 24268, number of lives

Blue Thunder – *Poke* 41006, number of lives

Dead Racer – *Poke* 27150,0 infinite lives

Hall Of Things – *Poke* 32717,0 no wounds, Poke 35923, starting amount of magic

Fantastic Voyage – 10 *Clear* 30791 *Load* "Voyage" *Code*. *Poke* 54492,0 (infinite divers) *Poke* 54227,0 (stops infection) *Border* 0 *Randomise Usr* 53248

Black Hawk – *Poke* 34695,183 infinite lives

Cavern Fighter – *Poke* 31683,0 poke 31684,0 infinite lives

Pinball Wizard Poke 51666,0

Finally let's get BBC owners off the hook because here without any further ado is the completing part of Dave Noble's complete solution to *Castle Quest*.

"Climb the long ladder to the top. Jump left. Climb down to gold brick and get it. Climb up the ladder and travel left jumping the gaps to the point where the troll appears. He will take the brick and put it in the room with two ladders down to it. Go down the ladder he doesn't use and get the brick back – move to the left and troll will reappear. Avoiding him go through the passage out of which the troll appears and cross the bridge. Continuing left returns you to the initial start position. Trap the monkeys as before and get them to go past both spiders. When past drop the torch and restore the bucket. Walk down the steps and jump left across the gaps to the point where the sound of the witche's approach begins. When the witch gets as close as possible throw the bucket at her and the water will kill her. If she just quivers and recovers she was not close enough!

Continue left to the wand and enter the location where the wand is, holding the stool. Pick up the wand and drop the stool and bucket. Stand on stool and jump out. Climb up ladder to left and up. Pick up gold coins in this passage. Restore the aqualung. Enter the water and go to the ladder used before. Drop the aqualung. Pick up the ruby and the sword. You should now be carrying Sword, Ruby, Gold Coin, Brick and Wand. Go up the ladders and travel left to the point before the troll where the wizard appeared. Go down this short ladder. You should see a passage entrance and a ladder past it to the left.

"Throw the item being half through it. Jump to left into passage and jump left to the top of the ladder. Restore the sword and pick up the item which was thrown.



Airwolf from Elite

"Make sure you are holding the sword. Go down the ladder to the mezzanine just above the level on which the yellow guards are pacing. Along to the left is a short ladder. Go down this and scroll the screen to the left so you are on the right hand side. When only one guard is in sight step off to the left and kill him. Walk right and kill the second guard and drop the sword. Restore the wand. Continue walking right to the point where you should drop into the water and you have done it!"

Tony Kendle


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Market forces

'Young Carruthers enjoyed being a Troll, Of course his talons felt awkward in his Doctor Martens, but looking in the mirror, he felt that his bristly snout, twitching as it was above two terrible tusks, was quite fetching .'

Well, a good adventure evokes a certain amount of atmosphere, but this may be taking things a little too far! The last two or three years have seen an incredible increase in the popularity of adventures, and this surely comes as no surprise to the observer of the computer software scene

Our hero, young Carruthers, is actually a bit of a maverick – most adventurers would rather dream of being the all-conquering hero

The first adventurers, running massive mainframes were set in underground complexes and the player explored vast subterranean landscapes in search of treasure and motto scores. Striding forth, lantern held high in one hand, sword ready in the other, players could indulge all their fantasies of dragon slaying and treasure-seeking – but now with the added fillip of lots of lateral thinking and logical puzzling in order to solve the many problems

It was thus entirely evident that once home computers gained enough memory, then as surely as *Cave* followed *Colossal*, adventures would become a major pastime (though speaking of memory, I once saw a perfectly playable adventure on the ZX81!)

From the early days of text-only, we have seen adventures like arcades, grow ever more sophisticated as programmers pushed against the boundaries of their machine's capabilities – how often have you seen the phrase "what more can be done with the ZX81/Spectrum/BBC?", or even more hopefully, "You'll never see a better program on the ''? Famous last words indeed!

During the last year of so, two major trends in adventure software have become evident The first is the graphic adventure

America does not seem to have been hit by the graphic revolution as we have here in Europe – there, just about all software is disc-based and adventures rely heavily on disc access to call up details of each location Apart from leaving every available byte free for the framework of the program, thus allowing very flexible play, this random access allows much detailed location descriptions and more sophisticated character inter-reaction than can be hoped for with the serial access of tape

Bowing to 'market forces' British adventure houses now find it mandatory to include graphics in their programs – so much so that the phrase 'text-only' is now often taken to mean 'text plus-graphics', with 'graphic adventures' denoting that other booming creature, the arcade adventure, of which more later

In The Corner, I've tried to remain aloof from the 'text v graphic' debate, which has raged since *The Hobbit* made its first appearance Although The Corner seems to have gained a reputation of being one of the last bastions of pure text adventures, this is not to say that I don't enjoy graphic adventures But it is sometimes with regret that I look at modern trends

Even given the memory-saving compaction routines of authors like Level 9, and the fact that in good adventures you should be able to turn off the pictures, nevertheless, there must surely amongst all those bytes given over to coloured pixels, lurk an abundance of locations and problems that will never now be seen but my imagination, or do the latest Level 9s, as just one example, lack just a little of the old atmosphere? In this particular case, the adventures are still of the highest quality, but it is true to say that others use graphics in their adventures to hide the true awful nature of the game

Still, there's no denying that graphics can look very pretty and serve to frame the adventure in a nice wrapping Occasionally too, the picture holds some clue not evident from the text, and this is all part of solving the puzzle

So, adventures with added graphics have been, in my view, one of the major trends of the past year or so Whether this has been the cause of the upsurge in popularity of adventures, or the *effect* of it, I'm not sure, though I am sure that, as adventures have gained in popularity, so pure arcade shoot 'em ups have declined. Every computer gamer loves the vicarious thrill of a good zap, but now that arcade games seem to reached a level of sophistication that makes it difficult to see what else can now be achieved with the present generation of machines, adventures offer a far more open environment – the player's own imagination

Arcade games have recently adopted the trappings of adventures, and there is now a third category of computer game the arcade adventure. I have occasionally mentioned these in The Corner, and recently covered *That's The Spirit* in detail Arcade adventures are, I'm sure, a valid though rather distant relation of the logic-puzzle adventure

The second major trend of recent adventuring has been the do-it-yourself adventure The software scene is, or was, before the big money moved in, much more of a cottage industry on this side of the Atlantic, and although most of the small companies who worked from a bedroom just three or four years ago are now large corporative bodies, there are still many individuals writing adventures

Although there has always been a trickle of adventures coming from the one-man software house, the trickle became a torrent with the release of *The Quill*, the tabula rasa adventure utility I feel this is one of the most important programs yet released for the home computer user

Although accomplished programmers tell us otherwise, for us would-be adventure-writers, mere mortals as we are, the coding of an adventure is the most difficult part of the process and most of us are discouraged from writing them even though we have in our minds a superb scenario *The Quill* takes care of the machine-code, leaving us to construct

```
You are s[illegible] at the [illegible] of the road
before a small brick building.Around you
is a forest.A small stream flows out of
the building and disappears down a
valley.

[illegible]
[illegible]

What now ?

You are in a valley in the forest, beside
a stream tumbling along a rocky bed.

[illegible]
[illegible]

What now ?
```

Colossal Cave

the storyline – and thus is where the a.p (see above) is finally vindicated, because that story really is the hardest part of writing an adventure. We've seen some truly awful *Quill*'d programs, many competent ones, but only a small handful that could stand beside the truly great adventures. As much if not more care has to be taken with the presentation of the *Quill*'d adventure. *The Quill* in its standard from has many drawbacks, and it is to Gilsoft's credit that the company has a policy of continually updating the utility.

The utility has encouraged a whole army of 'front-room' adventure-writers, and this can only be a good counterweight to the serried ranks of dandified, glossily-advertised big name software houses, many of whom have the laughably reactionary policy of refusing to assess *Quill'd* adventures!

Adventuring has become a hobby in its own right, and nowhere is this more clearly seen than in the rapid increase of the number of clubs and newsletters over the past year. Unfortunately, many people had cause to regret their first exposure to an adventure club, receiving only silence for their fiver sent off in good faith. But worthy enterprises like Henry Miller's Adventurer's Club Ltd., Nick Walkland's *Orcsbane* fanzine/helpline and the joint effort from Roger Garrett and The Adventurer's Guild, *Adventureline*, have brought pleasure to many adventurers and are now well-established. These clubs and others have been the subject of a recent Corner, and will be updated soon. Suffice to say that in the absence of the late much lamented *Microadventure*, the newsletters from these clubs are everything the adventurer needs when resting from the latest adventure.

More evidence of adventures as a hobby, if required, can be seen in the number of Helplines and Adventure columns in computer magazines. Helplines fulfill more than just a need for help when stuck – they also introduce adventurers to each other.

The most pleasant part of my job over the last three or so years has been reading letters from all over the world, from Canada to Australia to Portugal and Malta and Poland – most of course, require help, but other correspondents are happy just to chat about our hobby.

Future trends? Despite what distributors would have us believe, pure text adventures will always be with us, and as memory becomes cheaper, so will adventures grow and become more interesting, particularly as disc hardware becomes more common in this country.

But graphic adventures too are here to stay, and the opportunities to involve the player more closely with the plot will increase as does memory. The use of icons to make a speedy computer/player interface is now established and will become more sophisticated.

Getting into pure graphics, I feel that the arcade adventure will remain just a distant cousin of the text (with graphics) adventure.

But there is no reason why an adventure should not be conducted entirely in graphics – the early 3D maze games are an indication of the way that this particular trend could go. Novagen's *Mercenary* allows the player to descend from his spaceship (after zapping the general locality of aliens) and 'walking' around the subterranean complex doing all the usual lamp-getting and treasure-seeking. The zapping part of the game is sensational, but the version I saw some time ago was a little short in the adventure department. With more Ram to play with, this kind of adventure could become a major trend.

Finally, don't forget the Trolls! They will always be with us, and rather than betraying a paucity of imagination on the part of the writer, those fantasy worlds of Dragons, Elves and magic swords are simply frameworks for worlds in which anything can happen. As long as the best adventure-writers can continue to suspend our disbelief for a few hours whilst we explore their worlds, then adventures will remain a challenging and important branch of computer software.





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Peek & Poke



Spectrum tips

M Payne of Coventry, writes

Q **You mentioned on your page some time ago that you would like readers to send in tips for their micros. Well here are some tips for the Spectrum**

1. To find out the contents of a cassette tape; use VERIFY "XXX"

2. To activate auto-scroll; use POKE 23652,0

3. To test your Rom, unplug all peripherals (except the TV) then use this:

10 Let C = O: For B = 0 TO 16383: Let C = C + Peek B: Next B: Print C

If the Rom is OK then the answer 1926175 should be printed.

How's that?

A Not bad! The first one suffers from the obvious drawback that you have to read the whole tape at normal speed, but that's what you deserve if you forget what is on a tape!

The third one takes a little time to produce the correct answer (2 minutes 26 seconds to be precise), but should be quite useful in deciding whether there is a problem with the Rom. Keep those tips coming

Heading to come

Gill Cooper, Rayleigh, Essex, writes

Q **I have a Spectrum and also the games *Combat Lynx* and *Fighter Pilot* (amongst others). I wonder if you know of any company that sells keyboard overlays for such multiple key games (like the one supplied with *Lords of Midnight*)?**

A Print 'N Plotter products certainly produce keyboard overlays for the Spectrum which can be customised to your needs. These can usually be obtained from most good computer shops

The price is quite reasonable too

It seems a pity that the suppliers of 'multi-key' games do not follow the example set by Beyond Software and supply the overlay with the software – the cost can hardly be prohibitive

Shop around

Christos Giannikos, of Athens, Greece, writes

Q **I saw in Vol 4 No 5 that the cost of the QL microdrive cartridges has come down from £4.95 to £1.99 each as from February 1.**

However, a friend of mine was charged £4.95 for each cartridge at a London shop on March 1.

Just why did he have to pay the old price and who is setting the prices? I think Sinclair must be the one setting the highest price anyway.

A Basically each retailer is able to charge whatever price suits him or her best. Although Sinclair may have reduced its prices to the retailers, you should remember that they may still have large stocks that were obtained at the old prices

This is simply another example of the old saying that it is essential when buying to shop around

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...the atmosphere generated by this excellent game is incredible...virtually unrivalled by anything else available on the 64..."
P.S.S. 452 STONEY STANTON RD. COVENTRY CV6 5DG TEL. COVENTRY (0203) 667556

Charts

Amstrad

1	(1)	Way of the Exploding Fist	(Melbourne House)	£9.95
2	(3)	Chiller	(Mastertronic)	£1.99
3	(2)	Frank Bruno's Boxing	(Elite)	£8.95
4	(6)	Lords of Midnight	(Beyond/Amsoft)	£7.95
5	(5)	Nonterraqueous	(Mastertronic)	£1.99
6	(8)	Beach-head	(Access/US Gold)	£9.95
7	(–)	Finders Keepers	(Mastertronic)	£1.99
8	(–)	Alien 8	(Ultimate)	£9.95
9	(–)	Locomotion	(Mastertronic)	£1.99
10	(10)	Starion	(Melbourne House)	£9.95

Atari

1	(2)	Rescue On Fractalus	(Activision)	£9.95
2	(4)	Chop Suey	(English Software)	£9.95
3	(–)	Music Construction Set	(Electronic Arts/Ariolasoft)	£9.95
4	(–)	Pinball Construction Set	(Electronic Arts/Ariolasoft)	£9.95
5	(3)	Seven Cities Of Gold	(Ariolasoft)	£9.95
6	(–)	Battlezone	(Quicksilva)	£7.95
7	(–)	Blue Max 2001	(Datasoft/US Gold)	£9.95
8	(–)	Air Wolf	(Elite)	£9.95
9	(–)	Emerald Isle	(Level 9)	£9.95
10	(–)	Red Moon	(Level 9)	£9.95

BBC

1	(1)	Match Day	(Ocean)	£9.95
2	(4)	Beach head	(Access/US Gold)	£9.95
3	(2)	Combat Lynx	(Durell)	£8.95
4	(3)	Jump Jet	(Anirog)	£9.95
5	(7)	Revs	(Acornsoft)	£14.95
6	(–)	Alien 8	(Ultimate)	£9.95
7	(6)	Elite	(Acornsoft)	£12.95
8	(–)	Sword Of The Rings	(Silversoft)	£9.95
9	(8)	Repton	(Superior Software)	£7.95
10	(–)	Knight Lore	(Ultimate)	£9.95

Commodore 64

1	(10)	Spy vs Spy II	(First Star/Beyond)	£9.95
2	(1)	Frank Bruno's Boxing	(Elite)	£7.95
3	(4)	Way Of The Exploding Fist	(Melbourne House)	£9.95
4	(5)	Summer Games II	(Epyx/US Gold)	£9.95
5	(9)	Barry McGuigan's World Championship Boxing	(Activision)	£9.95
6	(7)	Sky Fox	(Electronic Arts/Ariolasoft)	£9.95
7	(2)	Beach head II	(Access/US Gold)	£9.95
8	(–)	Wizardry	(The Edge)	£9.95
9	(5)	Karateka	(Broderbund/Ariolasoft)	£9.95
10	(3)	Now Games	(Virgin)	£8.95

Spectrum

1	(4)	Fairlight	(The Edge)	£9.95
2	(1)	Daley Thompson's Super Test	(Ocean)	£6.95
3	(2)	Way Of The Exploding Fist	(Melbourne House)	£8.95
4	(3)	Fighting Warrior	(Melbourne House)	£8.95
5	(–)	Sorderons Shadow	(Beyond)	£9.95
6	(–)	Marsport	(Gargoyle Games)	£9.95
7	(5)	Frank Bruno's Boxing	(Elite)	£6.95
8	(–)	Graham Gooch Test Cricket	(Audiogenic)	£9.95
9	(–)	Hacker	(Activision)	£7.95
10	(7)	Nightshade	(Ultimate)	£9.95

All figures compiled by Gallup/Leisurescope

Top Twenty

1	(1)	Way of the Exploding Fist *(Spectrum/C64/Amstrad)*	Melbourne House
2	(2)	Frank Bruno's Boxing *(Spectrum/C64/Amstrad)*	Elite
3	(9)	Fairlight *(Spectrum)*	The Edge
4	(3)	Daley Thompson's Supertest *(Spectrum)*	Ocean
5	(4)	Fighting Warrior *(Spectrum)*	Melbourne House
6	(–)	Hacker *(Spectrum/C64)*	Activision
7	(5)	Now Games *(Spectrum C64)*	Virgin
8	(–)	Spy vs Spy II *(C64)*	First Star/Beyond
9	(20)	Graham Gooch Test Cricket *(C64)*	Audiogenic
10	(10)	Beach-head *(Various)*	Access/US Gold
11	(7)	Action Biker *(Spectrum C64)*	Mastertronic
12	(–)	Sorderons Shadow *(Spectrum)*	Beyond
13	(–)	Marsport *(Spectrum)*	Gargoyle Games
14	(6)	Summer Games II *(C64)*	Epyx/US Gold
15	(–)	Chiller *(C64/Spectrum)*	Mastertronic
16	(13)	Barry McGuigan's World Boxing *(C64)*	Activision
17	(16)	Hypersports *(Spectrum/C64/Amstrad)*	Imagine
18	(14)	Finders Keepers *(Spectrum/C64/Amstrad))*	Mastertronic
19	(–)	Elite *(C64/BBC/Amstrad)*	Firebird
20	(8)	Sky Fox *(C64)*	Electronic Arts/Ariolasoft

Figures compiled by Gallup/Leisurescope

Readers' Chart No 46

1	(1)	Way of the Exploding Fist (Spectrum/C64/Amstrad)	Melbourne House
2	(–)	Fairlight (Spectrum)	The Edge
3	(3)	Daley Thompson's Supertest (Spectrum)	Ocean
4	(–)	Frank Bruno's Boxing (Spectrum/Commodore/Amstrad)	Elite
5	(9)	Summer Games II (Commodore 64)	US Gold
6	(–)	Spy vs Spy (Spectrum/Commodore)	Beyond
7	(–)	Barry McGuigan's World Ch'nship Box'g (Commodore 64)	Activision
8	(2)	Hypersports (Spectrum/C64)	Imagine
9	(10)	Red Moon (Various)	Level 9
10	(3)	Frankie goes to Hollywood (Spectrum/64)	Ocean

Winning phrase No 46: "Eastenders soap, filthy plot, were you right?" from Hazel Williams of Sevenoaks. Honourable mentions to A. Cunningham for "Massed people of Tottenham rise up – why?" and T Burdis for "Alf Garnett – Speight's memory of home."

Now voting on week 48 – £25 to win

Each week *Popular* is compiling its own special software top ten chart - compiled by YOU

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's Readers' Chart, published above.

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize.

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP

Voting for Week 48 closes at 2pm on Wednesday October 23 1985. Entries received after that time will not be eligible for inclusion in that week's voting. The judges decision is final. Only one entry per individual per week will be allowed.

Name .... **My top 3: Voting Week 48**

Address .... 1..

.... 2..

.... 3..

My phrase is: ....

New Releases

VIOLENT

Imagine *Way of Exploding Fist* played not against a bunch of skilled but civilised monks close to Zen enlightenment, but a motley selecoon of thuggish, mythical creatures These include a particularly vicious man/dragon entity that strikes below the belt and punches with its wings

Plot is rescue the princess by seeing off assorted baddies and figure out what to do with the odd magic potions that litter your path. The fighting is the thing, though

Fight controls are reduced to retreat / forward / jump / duck / high / middle and low blows You come equipped with what looks like an enormous stick, but is apparently a sword Either way there is much smashing of heads and bodies

The graphic detail and animation is excellent, I particularly liked the way the nasties continue to swing and swipe with their swords even after they have left you dead on the ground – as though taking out their aggression on thin air

Watch out for the bloke with the wings . he's, well, hard

In fact, *Fighting Warrior* may be the most violent computer game I've ever seen. Spectrum sound is used well to give the effect of really hard blows and there is none of *Exploding Fist's* meditative music and post-combatal bowing It should do well, Not as subtle as *Fist*, but a welcome release, nevertheless, except for those of a nervous disposition

Program *Fighting Warrior*
Price *£7.95*
Micro *Spectrum*
Supplier *Melbourne House*
Castle Yard House
Castle Yard
Richmond
TW10 6TF

PACKAGED

More bundles – definitely this season's thing.

This time it's Creative Sparks which has four old titles on one tape for £7 50

These are two – *one* package for the Commodore 64 one for the Spectrum

The Spectrum tape includes *Orc Attack*, *Stagecoach*, *Tower of Evil*, and *River Rescue* Of these *Tower of Evil* is a multi-screen kill – everything, *Stage Coach* is a dodge things with ropey graphics *River Rescue* is a conversion of a once classic Vic-20 game into a Spectrum equivalent and *Orc Attack* is another conversion from the Atari originally I think where you man castle battlements cutting to ribbons all who attempt to climb them.

Of the four programs I would rate *Orc Attack* and *River Rescue* as well worth a few plays and the others as 'only if you're really bored'.

That leaves the package reasonable value overall

Program *Sparklers Specials*
Price *£7 50*
Micro *Spectrum*
Supplier *Thorn EMI*
Thomson House
296 Farnborough Road
Farnborough
Hampshire
GU14 7NF

Pick of the week

BATTLEFIELD ATTACK

Mirrorsoft will shortly launch *Strike Force Harrier* a detailed simulation of the famous bouncing aeroplane, which will eventually be issued on a number of machines (including, people have gasped, the Amiga) More mundanely, it is now available for the BBC and Electron.

Strike Force Harrier is one of those 'real' simulations where there are lots of keys to grapple with and a lot of flying techniques to master Not that it's 'just' a simulator – there is a complete battlefield attack program with the overall objective of destroying an enemy HQ using both Harrier and other forces

Most important of all though there are things to blow to bits in the sky and on the ground which means that even if you aren't that concerned about the minutest replication of Harrier handling characteristics, you still have a good reason to buy the program

It took, I must admit, several thousands of millions of pounds worth of scrapped Harriers before anyone in the office managed to achieve take off but nevertheless it soon became clear that *Harrier* is going to be *Revs* in the skies, ie, *the* flight simulation for the BBC as *Revs* was *the* racing car simulation.

Graphically it is good, excellent even, with a rate of screen up-date much faster than Mirrorsoft's earlier *Spitfire 40*

Provided you don't make the mistake of assuming that this is a quick to play, blast-away, but realise it's a complex simulation that will require quite a lot of studying of manuals on your part, you could find this one of the most engrossing games you'll *ever* play on the BBC I'd kill for an Amiga version.

Program *Strike Force Harrier*
Price *£9 95*
Micro *BBC*
Supplier *Mirrorsoft*
Maxwell House
74 Worship Street
London EC2A

FIREFIGHTER

The Great Fire of London is part of Virgin's Rabbit range of cheap(ish) games It is unusual in several ways – not least in the game objective – you play the part of the Lord Mayor of London during the great fire Your task is to organise teams of firefighters efficiently and attempt to stop the fire spreading in as short

This Week

Program	*Type*	*Micro*	*Price*	*Supplier*
3D Boxing	S	Amstrad	£8 95	Amsoft
3D Grand Prix	S	Amstrad	£9 95	Amsoft
G A C	Ut	Amstrad	£22.95	Incentive
Factfile Arithematic	Ed	BBC	£3 95	Kosmos
Factfile Gen Know	Ed	BBC	£3 95	Kosmos
Factfile Nat His	Ed	BBC	£3 95	Kosmos
Factfile Scotland	Ed	BBC	£3 95	Kosmos
Factfile Spelling	Ed	BBC	£3.95	Kosmos
Factfile Sport	Ed	BBC	£3 95	Kosmos
Strike Force Harrier	S	BBC	£9 95	Mirrorsoft
Interchart	Ut	BBC	£36 80	Computer Concep
Spreadsheet	Ut	C128	£24 95	Audiogenic
Mindshadow	Ad	Commodore 64	£9 95	Activision
The Magician's Ball	Ad	Commodore 64	£7 95	Global
Henry's House	Arc	Commodore 64	£9 95	Activision
Computer Christ. card	Ut	Commodore 64	£2 95	Virgin Games
Adrian Mole	Ad	Spectrum	£9 95	Mozaic
Big Ben Strikes agn	Arc	Spectrum	£8 95	Artic
Grump G. Supersleuth	Arc	Spectrum	£7 95	Gremlin Graphic
Riddler's Den	Arc	Spectrum	£7 95	Electric Dreams

Key Ad – adventure S – strategy-simulation
Arc – arcade Ut – Utility Ed – education

New Releases



a time as possible

You have a time limit of four game days and a variety of tools to assist you in your task Water pumps put out fires in a small area but must be frequently replenished by taking them to the river Demolition gangs can clear four to seven cells (areas of the city) and gunpowder gangs blast away cells that aren't burning to create a fire breach

To use each defence, first of all you must find it/them in the city and move to the section of cells you wish to clear. The screen display is simple – London is made up of a series of standard designs for houses and walls, burning buildings are shown by the use of a flash Though simple it works quite well and there is a facility included to design your own city

Basically it's a kind of strategy game – what do you use where to the best advantage – but the real time and scrolling map give it a nice touch of extra tension. One of those occasional games where relative technical simplicity becomes irrelevant compared to the addictive and original virtues of the game

Program *The Great Fire of London*
Price *£3 99*
Micro *Spectrum*
Supplier *Rabbit*
2-4 Vernon Yard
119 Portobello Road
W11 2DX

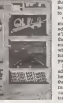
AVERAGE

QL arcade programs are moving slowly from absolutely dire to OK, but completely unexciting

There are two ways of reviewing a new QL games title, as a game on its own or relative to other software for the machine

On former criteria, *QL Hyperdrive* is a fairly average version of *Turbo* that compares with an average Commodore 64 version of the same game (with lousier sound of course) On the latter criteria, it is probably the best action game for the QL so far

For those not familiar with *Turbo*, it is a road racing game Your viewpoint on the action is from behind your and other people's cars The road disappears to a point in the middle of the screen giving an illusion of distance Race your car around the circuit and try to pass all the other cars – don't crash and accumulate points



It's quite fun to play and the graphics, although a little jerky at times are quite large and detailed.

If you have a QL, then I suppose comparisons with other machines are largely irrelevant, so in that sense I'd say this program is well worth taking a look at

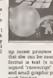
Program *QL Hyperdrive*
Price *£14 95*
Micro *QL*
Supplier *The English Software Company*
1 North Parade
Parsonage Gardens
Manchester
M60 1BX

SOUNDTRACK

The Magicians Ball is an adventure being issued on a number of micros including the Amstrad, Spectrum and Commodore 64 The main initial point of interest is the fact that *Tubular Bells* has been licensed to form a soundtrack to the game

On the Commodore this music is quite nicely presented – I have doubts about what it'll be like on the Spectrum though The exact bit of the music you get depends on where you are in the adventure and, perhaps, how well you are doing

In the end though it's the adventure that matters and here I'm a little doubtful. It has the usual plot idea really really nasty Magician who invades nice world of very attractive princesses and locks



up nicest princess of all so that she can be rescued The format is text (a nicely designed 'runescript' typeface) and small graphic pictures of each location.

The first locations feature plenty of action, you'll find five locked doors and half a dozen other puzzles to solve without trying, as well as an enormous number of weird objects and dubious looking people It will understand sentences like *Throw coin through door* but I find it irritating that on being told *There is a small envelope Take envelope* generates *I don't know the word envelope* whilst *Take small* generates *You have the small envelope*

On balance, I think it'll probably turn out to be an above average adventure The music does add something, but isn't really relevant (although the concept of music as soundtrack is an interesting one)

Buy it if you're an adventure lover If you're uncommitted it probably will not convert you though

Program *The Magicians Ball*
Price *£7 95*
Micro *Commodore 64*
Supplier *Global Software*
PO Box 67
London SW11 1BS

This Week

Activision, 15 Harley House, Marylebone Road, London NW1 01-486 7588 **Amsoft**, Brentwood House, 169 Kings Road, Brentwood, Essex, 0277 230222 **Artic**, Main Street Brandesburton, Driffield YO25 8RL, 0401 43553 **Audiogenic**, 39 Sutton Industrial Park, London Road Reading Berks 1AZ 0734 664646 **Computer Concep**, Gaddesden Place Hemel Hempstead Herts HP2 6EX 0442 63933 **Electric Dreams**, 31 Carlton Crescent, Southampton Hampshire SO1 2EW **Global**, PO Box 67, London SW11 1BS **Gremlin Graphic**, Alpha House, 10 Carver Street, Sheffield S1 4FS 0742 753423 **Incentive**, 54 London Street Reading RG1 4SQ, 0734 591678 **Kosmos**, 1 Pilgrims Close, Harlington Dunstable, Bedfordshire LU5 6LX **Mirrorsoft**, Mirror Group Holborn Circus, London EC1P 1DQ, 01-353 0246 **Mozaic**, Upper Street, Islington London N1 1RQ, 01-226 0828 **Virgin Games**, 10-14 Vernon Yard, Portobello Rd London



Success at the ST

The success of the much discussed Atari ST would seem to depend on the amount of software that can be seen to be produced for it, and at the PCW show there were a good selection of programs to be seen in various states of completion. What the casual observer may not have realised is the problems that the various software houses have experienced in trying to program the ST.

Firstly, the 520ST is still not finished, contrary to the impression given in the adverts, so *GemWrite*, and so *GemPaint*. The latter are only just finished on the IBM, while very little has been seen at all of the Basic. The supplied operating system, still loaded from disc after every reset, is not in a very good state. The main problem is with the discs – they are incredibly slow.

The problem seems to be caused because some of the software is written by Atari, and some by Digital Research. Atari is doing the low level code, that is the routines that directly access the disc, keyboard and screen, while DR is doing the higher level routines like *Load*, *Save*, and of course Gem itself. Atari claims its discs are just about the fastest around, but presumably because of the DR code that calls it, they work at very slow speeds. For example, opening a file for reading takes around three seconds and closing it takes another three – it makes the QL microdrives seem suddenly fast.

The root of the problem is that while most of Atari's code is written directly in assembler, DR writes using the C language. While this is fine for more complex routines, basic operations like 'print a character' should always be written in assembler, but on the ST the basic routines are written in C, adding a large overhead to the simplest of operations. Using C also explains the size of the STs Roms – the Mac Rom does much more, but being written in assembler only takes 64K.

Another problem is bugs – in the current version, which is supposed to be the last version before being Rommed, creating files on disc is fraught with danger. If you *Create* a file that already exists, the old copy will not always be deleted, so you end up with two files with the same name. If you delete one of them, the machine usually crashes, so the obvious thing to do is delete the file before you *Create* it – well, this has no effect, so *Delete* doesn't always work as well. How such serious bugs can remain in software supposedly close to release I don't know. It is very difficult to debug your own software when the operating system on which it is running is still being debugged itself.

If you're programming using just *GemDos*, and not the Wimp environment of Gem itself, it's generally straightforward, and the documentation is acceptable. However, the idea of the ST is that all programs should use the graphic features of Gem, including windows, mice and so on, and that's when the fun really starts. The Gem manuals are written by DR, which is unfortunate. They describe how to call Gem from C, but make very little mention of machine language. In fact, the only references to machine-code all refer to the 8086/88 family used in the IBM and clones, which is not much use on the ST. To be fair there is one sentence which mentions the 68000, but it is completely inaccurate! In fact, there is not one sample program being available written in 68000 assembler, which makes the struggle worse.

The documentation is massive, and can be separated into around ten A4 binders. Trying to find a particular piece of information can take a lot of searching, assuming of course that the information is actually there. For me, as a programmer, the most useful document is the source code listing of what will be the Rom, but this too is limited as certain sections are missing.

The ST hardware seems finished, and while containing nothing as revolutionary or technically complex as the Amiga, it does seem to work. The firmware is another story though, as DR seems to be in some difficulty doing the 68000 version of Gem, as well as the bundled software. Many companies want to do ST software, but their interest may soon wain if the machine is not finished properly and selling soon. It wouldn't take much for them to switch their interest and effort to machines like the Amiga and other anticipated cheap 68000 machines.

Andy Pennell

Dicey business

Puzzle No 179

Did you know that if two dice are thrown, you are more likely to throw a total of seven than any other total, and least likely to throw either a two or a twelve?

In fact, there are 36 different throws possible, of which six will result in a total of seven, and just one throw in each case will result in totals of two or 12. This will be familiar to players of Backgammon.

Suppose that instead of having two dice you throw *four*, and that instead of the *total* of all dice having to equal seven, a winning throw is one in which this total can be obtained by the *combination* of any two, three or all four dice. For example, a throw of a five and three ones would count since the five and two of the ones total seven. The fact that the fourth dice brings the total to eight doesn't matter.

Under these conditions, what are the odds of a winning throw?

Solution to Puzzle No 174

The numbers were 497 and two. Their product is 994 and their sum is 499. An infinite number of solutions can be found simply by inserting additional 'nines' into the middle of the larger number, eg, 4997 and 2, 49997 and two, and so on.

```
10 FOR X=100 TO 999
20 FOR Y=1 TO 9
30 LET P=X*Y
40 LET S=X+Y
50 P$=STR$(P)
60 S$=STR$(S)
70 IF LEN(P$)>LEN(S$)THEN GOTO 140
80 R$=""
90 FOR F=1 TO LEN(S$)
100 R$=MID$(S$,F,1)+R$
110 NEXT F
120 IF R$=P$ THEN PRINT X,Y
130 NEXT Y
140 NEXT X
```

In the program the two values *X* and *Y* are tested by means of two *For/Next* loops. For each pair of values the product and sums are found and are converted into strings *P$* and *S$*. The order of digits in *S$* is then reversed into string *R$*. If this string is then equal to *P$* then a solution has been found.

Winner of Puzzle 174

The winner is Alison Matulko of Lymm, Cheshire, who received £10.

Rules

The closing date for Puzzle 179 is November 13.

The Hackers

This one could be our big break in the artificial intelligence market!

–and the beauty is, it'll only need a few simple changes to your 'Master-Butcher' expert-system Ben. Here are the details.

Oh, and when you've finished, just take it round to the department of surgery at the medical school.